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Looking Forward*

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I want to take this opportunity, the first afforded to express to the membership of the Arizona State Medical Association my sincere thanks for the great honor you have conferred upon me. I realize that with this honor there is associated a great duty and grave responsibilities. I want to measure up to the fullest extent of my ability to your expectations in an orderly and complete fulfillment of the duties imposed upon me as your president. I assure you that it is indeed a rare privilege befalling any president of this Association to know and work with its members in a common and worthy cause for the betterment of our profession and for the benefit of the people, it is our privilege to serve. I shall strive to emulate past officials and realize that any success achieved must be dependent upon your assistance, advice, encouragement, and your constant activities in behalf of organized medicine.

I was born on a Friday, the 13th day of one of the warmest months of the year, and I am assuming the duties of president of this Association on the 13th day of the month. Oft-times during my life I have found myself in hot water, therefore, it is nothing new to me to now find myself in the warmest spot the medical profession has ever had to endure. During my tenure of office and ever-after, I promise to remain in the fight and I hope you will join hands and lend your cooperation. I have never, and I believe you feel likewise, had very much interest in the annual presidential address. I have always felt, and especially so this year, that the time allotted for this address could be utilized to a much better advantage. However, adhering to the customary procedure, I shall attempt to burden you but a short time with my thoughts. In so doing I want to digress somewhat from the usual type of presidential address and discuss with you certain topics which I feel are of practical importance. I am reminded of what Abraham Lincoln had to say on August 22, 1862: "I shall strive to correct errors where shown to be errors, and I shall adopt new views as fast as they appear to be true views." In this respect I shall endeavor to emulate Lincoln, and in so doing, I hope to bring you something of a constructive nature. I want to assure you that I am highly desirous of making my year in YOUR service one of a practical business administration. Above all things, I would have you know that this is YOUR Association, and I am only YOUR servant, and I want to serve as you would have me serve. This is NOT a ONE man organization, and I am not here to endeavor to accomplish the things in which I am personally interested—I am here to try and do the things you want me to do.

MEMBERSHIP

Based on 1938 figures, our Association now has a membership of 350 members. We are growing in numerical strength, and with this continued growth, our fighting interest should be aroused in an endeavor to develop our Association into the BEST in the country; we should make an analysis of our Association, or if you prefer, take inventory, know our exact status, improve on the good things and discard those things which are not valuable and of practical importance. No one should resent honest criticism. Perfection is like a glistening castle at the highest point of a lofty peak. It is approached one step at a time, with everything well done or every word well spoken marking the completion of part of the journey. With this thought in mind, let us for a moment consider some things which might be improved upon and made more nearly perfect in our Association.

SUGGESTIONS

1. I feel the time is opportune for us to devise the necessary measures whereby we may defray the expenses of our guest-speakers. Those of us who have served on the scientific program committee know quite well that you desire the best talent available, and we also know that it is indeed embarrasing to be compelled to say to our invited guests; "we would like to have you with us, but we have no funds with which to defray your expenses." If we are to continue to have the best guest-speakers available, then let us provide funds to defray part or all of their expenses.

2. In the appointment of committees who serve without remuneration, I feel it is advisable to make selections with care and due regard to locality and activity. As an example, the program committee should consist of members residing in the county in which the annual meeting is to be held. This will eliminate much unnecessary time, expense, worry and duplication of effort. What applies to the committee mentioned, likewise applies to cer-

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tain other committees. Most important of all is the appointment of men who will SERVE. It is far better to decline an appointment than to accept and then fail to do YOUR duty.

3. I believe it should be the duty of the president-elect to visit each of the component societies of the State annually, several months in advance of the annual meeting, meet the profession, discuss our problems, ascertain our needs, then consolidate all constructive recommendations and present same for your consideration. Dr. C. R. Swackhamer and Dr. J. D. Hamer are to be commended for the good work they accomplished along this line, however I feel sure they did not go where they were not invited.

4. Our increased growth and the vastly increasing activities should cause us to begin to think about a full-time executive secretary. Dr. Harbridge is not going to be with us always, nor do we anticipate his early departure; he has served us faithfully and efficiently, and we are inneed most grateful for his untiring efforts and devotion to our cause, nevertheless, the thought is well to keep in mind for future consideration.

5. The profession, I feel sure, does not fully realize and appreciate the vast amount of work and the great responsibility placed upon the Industrial Relations and Industrial Advisory Committees. These two committees devote considerable time, assume their travel and hotel expenses, devoting considerable time to the protection of our interests and they deserve the full support of the profession in Arizona.

6. The Arizona State Board of Medical Examiners. It is the duty of those holding membership on the Board to see that the laws governing the practice of medicine in Arizona are rigidly enforced, and it is our duty to see that the Board fulfills its duty. The Board needs our cooperation, and likewise, we need the cooperation of the Board in order that its activities may be much more effective. Being a member of the Board, I believe I may truthfully say that it is difficult to "see ourselves as others see us" and to judge the results of our efforts, but I can assure you that we are doing everything possible to advance medical education and to stabilize the requirements for the practice of medicine. We have assumed the responsibilities of determinnig fitness to practice medicine and of enforcing regulatory measures. We are the controlling force in admission to practice in Arizona, and after the license is granted, it is highly important that the highest standards of medical practice be maintained and violators effectively penalized. I believe the Board of Medical Examiners should be allotted space in the BULLETIN and also, if necessary, in SOUTHWESTERN MEDICINE, and be requested to keep us fully informed of its activities.

7. The time has arrived when we need more than ever before the cooperation of every friend of organized medicine, and I personally feel we should take a more active interest in and encourage activities of the Women's Auxiliary. We must give recognition to this valuable ally by giving it representation in the Council of the Association, with privilege of vote, if necessary. This organization can be of tremendous benefit to us at this particular time.

8. I am in favor of making an assessment of $5.00—the annual registration fee—against each member of the Association at the time the annual dues are paid. This will give the host-society ample funds—minus all financial worries, to plan for our annual meeting. Should there be a a surplus, then it may be utilized to a good advantage in more ways than one. This suggestion may conflict with our by-laws. If so, then make the necessary changes.

9. I believe in presenting to the executive committee, at least quarterly, a more "detailed" and comprehensive report of our expenses and financial affairs, than we have had in the past.

10. The journal of SOUTHWESTERN MEDICINE. The editor of this publication is to be congratulated for his splendid efforts put forth in behalf of the profession. We have in Arizona, an associate editor, Dr. J. D. Hamer. Every one knows how anxious he is to cooperate with the profession of Arizona, and if you will glance through the issues of SOUTHWESTERN MEDICINE for the past year, you can readily see that Dr. Hamer has had but very little cooperation in editing the Arizona section of SOUTHWESTERN MEDICINE. He is entitled to our whole-hearted cooperation, and if he doesnot get it, then it's no reflection on Dr. Hamer's ability—it's a reflection on the officers of the component societies who are responsible for the submitting of papers news items, election results, etc., for publication. We all know there is ample room for COOPERATION; your officials need it, and unless it is forthcoming from each of us, then we as individuals must assume the responsibility.

11. Public Relations Committee. I consider this as being one of our most important committees, and I feel its members should be congratulated for their recent activities in behalf of organized medicine. Physicians have double work to do at the present time in educating the laity as to the evils of controlled medical practice and allied fallacies because so many physicians have played the sluggard in this regard for so long a time. An intensified public relations campaign explaining medicine and its works to the laity is needed. It may be an eleventh hour remedy but it's worth trying before the great and gullible American public is sold completely and irretrievably "down the river" of Socialized Medicine. The use of competent outside help are useful and necessary factors in any public education campaign, but they are of secondary importance. The principal part must be played by members of the medical profession. The result will depend pretty largely on how well we do the job. Let us have a well-organized speaker's service all over the state; let us call this committee, if you please, the "Information Committee" and hold it responsible for all publicity; we should let the pub-

lic know that we have always been the first to attempt to protect the public welfare; that most of the publicity regarding this issue has been of a biased nature; that organized medicine is willing to cooperate in any and all ways, if given the opportunity, and to improve medical care for indigent and low income groups; that we feel that we should be given the opportunity to plan, supervise and manage any "sickness insurance" plan; that we are opposed to the regimentation of medical practice by politicians or other lay bodies; that our present health program has been launched on a sound, helpful AMERICAN course and should be kept on that course, and that the desire of the country is not Socialized Medicine, but AMERICANIZED medicine. This can all be accomplished through the constant activities of the Public Relations Committee.

12. Graduate Medical Education. Based on information which I have been able to obtain, it is my understanding that a survey will be made shortly in Arizona by the Council on Medical Education and Hospitals of the American Medical Association. Located, geographically. as we are, and being noted as a "health-resort-state" we should sponsor such a program. Most of our members are financially unable to visit the great medical centers as often as they would like in order to obtain adequate post-graduate instruction. Through cooperation and a little effort on our part this work can be brought to our own door. There is adequate proof reported by more than half of the states now participating in this program that it is proving of inestimable value. The "Refresher" courses which have recently been given in Arizona are proving of interest and we should cooperate with the sponsors. These courses are only the stepping stone to Graduate Medical Education, and we should lend our full cooperation toward bringing this to an actual accomplishment within our boundaries.

13. Let us consider the activities of the State Board of Health. Personally, I do not feel that the State Board of Health has for the past two years cooperated properly with the medical profession of Arizona. Would you improve the health of our State? Do you favor a plan to conserve our human resources? If you do, then the first step is to strengthen the State Health department. This was the foremost recommendation which the Technical Committee on Medical care presented to the National Health Conference last summer. It means we should strengthen our present loose methods into a sturdy basic structure to promote health. Just what is a health department to the population which it exists to serve? What is it to YOU? Is it a name on a door at the City Hall or State House? It is a group of functionaries performing academic tasks that have nothing to do with you and your family? Is it an office of rules and regulations existing solely to slap quarantine on houses from which contagion may spread? Some health departments are in truth no more than one or the other of these. Many are considerably less. Theoretically, however, a health department is responsible for the health of a community as much as the head of a family is responsible for the health of his household. This member of the municipal structure protects your environment. It is the duty of the health department to strengthen the population inwardly, both as individuals and en masse, against disease. This cannot be accomplished with a Superintendent of Public Health who is not in sympathy with organized medicine, nor one who constantly succors quacks, nor one who plays politics to his heart's content. We must have as the head of our health department a full-time physician with the proper credentials of training, etc. We are ready and willing to put into the hands of our health department all of the excellent preventive and curative weapons we possess, but we expect and demand 100 per cent cooperation from our State and City health departments.

14. The American Medical Association. Progress is not automatic. The world grows better because there are high-minded souls, who wish that it should, and because they will and dare to take the right steps to make it better. This is what the American Medical Association has been doing for years and is continuing to do for the benefit of the medical profession and those it is our pleasure to serve. I want to commend the American Medical Association for its present method of incorporating in The Journal its many articles dealing with economics and other new features—instead of presenting these features in special bulletins. The American Medical Association officials face a tremendous task in dealing with the functions of a profession so great in number and responsibilities. To say that it is performing most admirably its very great duty would be putting is very mildly

15. Socialized, National Compulsory Health Insurance, Federalized, State, or Politicalized Medicine—or call it whatever you may. I will leave this subject to better and more capable hands for discussion. You know just as much about the subject as I do, but it might be well to state that in analyzing our own studies of medical care there may be certain local inadequacies and certain inequalities, and we welcome the concern shown in the endeavor to solve these problems, and I am confident that our committee on Medical Economics will present at this meeting a workable plan for the care of the indigent and low-income group. The medical profession would be the last to deny the existence of medical needs in the United States. To plans which would benefit the people we serve, we offer our whole-hearted and unselfish support, and we will oppose unsound doctrines which would eventually lower the standards of medical service to that found in other countries, where the physician is made subservient to political control.

COMMENT

Regardless of what may come it is well to remember that if the Government cannot administer medicine any better than it administers its various bureaus; if it indulges in waste in medicine as it indulges in the administration of its various

functions; if it has as little regard for ability in its physicians as it has in its servants, I fear the health of America would be in serious jeopardy. We are asked to turn from the system of private practice to some form of Socialized or State medicine; to follow the lead of Germany and England. We crossed the ocean once to get away from the lead of European countries, and by adopting different customs and ways, built here the greatest civilization in history. By means of a calm and dispassionate marshalling of facts, let us redouble our efforts to convince the public that Socialized Medicine is "dehumanized" and "poor-house" medicine.

Gebler Bldg.

Addison's Disease, with Report of Case Successfully Treated Through Three Critical Periods

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THOMAS Addison, of Guy's Hospital, London, was the first to recognize this condition, hence the name "Addison's Disease." His monograph published in 1855, "The Constitutional and Local Effects on Disease of the Supra-renal Capsules," shows clearly that he truly understood this condition and that he was well versed in the art of inspection. This monograph can also be classed as modern because so little has been added to our clinical and pathological knowledge of this disease since his writings of eighty-three years ago.

REPORT OF CASE

O. O., American, white male, now aged 41, beneficiary of the Veterans' Administration, was first diagnosed and treated for Addison's Disease in the fall of 1934 at Fitzsimons General Hospital, Denver, Colorado. His personal and family history have no bearing on present illness. Prior to about 1928 he considered himself to be in excellent health.

He served for four months during the World War, August 18 to December 18, 1918. He did not go overseas and was discharged from the service without disability. For the most part after his discharge until 1933 he worked with his father in a bottling works in a small New Mexico town. In 1928 or early 1929 he noted that for some reason or other he sometimes had periods of unexplained weakness. After a little rest he would feel all right and could resume his work. These spells of fatigue, as he called them, kept on and upon reporting to his family physician, no cause was found for them.

For the next three years or more he worked less and less. He found that longer rest periods were needed and even fairly long periods of rest in bed were necessary in order to carry on with any part of his work. He learned, too, that he seemed to feel better if he ate more than the usual amount of salt. He therefore took a considerable quantity of salt and liked it in buttermilk.

In 1933 he moved to Colorado seeking further health aid but to no avail. Further examinations by doctors gave no added information other than that his trouble was thought probably to be due to pulmonary tuberculosis and more rest was advised. There was no cough, however, and this diagnosis was presumably made on the evidence of weight loss and the general weakness. The x-ray findings were not confirmatory of active pulmonary tuberculosis.

In the fall of 1934 his condition became serious and in October he was admitted under the Veterans' Administration to Fitzsimons General Hospital, Denver, Colorado. The condition had progressed so far then that a second stage of Addison's Disease was readily recognized. There was a generalized bronzing of the skin, marked asthenia, low blood pressure and gastro-intestinal disturbances with nausea and vomiting. An x-ray of the adrenals showed bilateral calcification.

Treatment with cortical hormone, 1 cc. daily, (Eschatin being used), was given from Oct. 31 to Nov. 19. Marked and immediate improvement was noted. The gastro-intestinal upsets were soon controlled and the blood pressure was increased. Injections thereafter were less frequent. In early December, 1934, he was discharged to home treatment with written instructions referable to the use of the hormone or Eschatin.

Under home treatment and under the care of his wife he did well until January, 1936. He carried on the use of Eschatin but not as regularly as was advised. The excessive cost of the hormone made the regular use almost prohibitive. He also continued to use large quantities of salt.

In February, 1936, he began to slip rapidly and on February 21st, was admitted to William Beaumont General Hospital in the third stage of Addison's Disease, or in the state of crisis.

Immediate examination showed him to be critically ill. There was marked gastro-intestinal disturbance with nausea, vomiting, diarrhoea, tenderness over the entire abdomen and persistent hiccoughs which had been present for two days. Blood pressure was 56/35 and dehydration was almost to the stage of acidosis. The heart sounds could barely be heard with the aid of the stethoscope and the pulse at the radials was imperceptible. There was also a generalized bronzing of the skin, which at that time was of a very dark hue.

1000 c.c. of normal saline with 10% glucose was given soon after his admission and was repeated two and three times daily for several days. The cortical hormone was given intravenously in large doses just as soon as obtainable. For more than one week 18 to 20 c.c. daily was given at a cost of approximately $6.00 per day. As soon as the crisis was passed smaller doses of the hormone were used and at the time of discharge 10 min. every other day intramuscularly was given.

There was no doubt in our mind as to the benefits of the hormone. We are sure that we would not have been able to come through the crisis without it. After the crisis large quantities of sodium chloride were given by mouth giving from 3 to 6 grams per day in capsules and as much as he could take in his food and buttermilk.

He was kept in the hospital until May 7th. He had gained several pounds in weight and blood pressure reached 110/76. We noted that under treatment a gradual change in the color of the skin occurred, with improvement in the darker hue, which changed to a lighter color.

At the time of discharge detailed instructions were given his wife as to future treatment. Periodic

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examinations at the hospital or some Veterans' Facility were urged. A card at Christmas time in 1936 stated he was doing well but no further word was had until he was again admitted to the hospital September 11, 1938.

During the first two weeks of this second period of hospitalization there was apparent improvement. A diet low in potassium was given and sodium chloride pushed to as high as 14 grams per day. Eschatin 1 c.c. daily was given intramuscularly. At the end of two weeks he suddenly went into a crisis for no apparent reason at all. The Eschatin was increased to 20 c.c. per day, saline 1000 to 1500 c.c. daily by vein was administered, but with no improvement.

Another hormone was then used and slight improvement noted. A hypertonic saline solution was also decided upon and for three days 500 to 1000 c.c. of 5% saline was given by vein. This produced a severe headache each time but marked improvement otherwise was noted and after three days the nausea, vomiting and abdominal tenderness were relieved. The new cortical hormone was continued and by October 15th the patient was able to be up and about the ward. At the time of discharge Oct. 21, 2 c.c. of the cortical hormone per day was given. Some 13 or 14 pounds in weight loss was had during this last crisis, the weight dropping to 120 pounds.

On September 19th, or 8 days after admission, the blood chlorides were 412, phosphorus 2.8; and cholesterol 136. On October 10th, the chlorides were down to 355. X-ray of the adrenals showed calcification.

Upon reporting to the Outpatient Service of the hospital on December 20th for examination his blood pressure was found to be 112/76 and weight 135 pounds. His general condition was considered as fair. He was still taking 2 c.c. of the cortical hormone daily.

DISCUSSION

Addison[1] described this disease which bears his name as being characterized by "general languor and debility, feebleness of the heart action, irritability of the stomach, and a peculiar change in the color of the skin, occurring in connection with a diseased condition of the supra-renal capsules." He further stated that the skin presents a "dingy or smoky appearance or various shades of deep amber or chestnut brown and that this singular discoloration usually increases with the advance of the disease; the anemia, languor, failure of the appetite and feebleness of the heart become aggravated; a darkish streak usually appears on the commisure of the lips; the body wastes but without the emaciation and dry, harsh condition of the surface so commonly observed in ordinary malignant diseases; the pulse becomes smaller and weaker, and without any special complaints of pain or uneasiness the patient at length gradually sinks and expires."

This is indeed a wonderful description given by Addison. He did not have the benefit of the blood pressure apparatus, but he noted that the pulse was "soft and compressible."

Not wishing to detract in any way from this description as given by Addison, but perhaps adding a little of the modern phraseology, we might say that this disease is characterized by muscular and vascular asthenia along with frequent gastro-intestinal upsets. It is insidious in its onset with an unexplained muscular weakness and disinclination for exertion. This weakness is described as being both physical and psychic; that is, the patient not only lacks energy but also may lose interest in everything. The memory is sometimes enfeebled, insomnia is quite common, but there may be alternate periods of great drowsiness. When this weakness is well advanced the patient lies almost in a stupor, unable apparently to move, speak or eat. Digestive symptoms such as gaseous distention, gaseous eructations, abdominal tenderness, pain, constipation or diarrhoea, nausea, vomiting, etc., are commonly noted. The pigmentation comes on gradually, the skin may take on a dirty yellowish tint, changing slowly to a light brown, then deep brown on into a deep black. Some cases have been noted as blue or bluish green in tint. This pigmentation may be diffuse, although the areas exposed to pressure are usually darker. A low blood pressure is always found and often reaches a critical level earlier in the disease than is sometimes supposed.

This group of symptoms may be divided into three stages. First, the stage of unexplained weakness. Second, the typical clinical syndrome so easily diagnosed. Third, the stage of exhaustion or collapse in which nausea, vomiting and dehydration toxemia dominate the picture. Asthenia digestive disturbances and the melanoderma are listed as the diagnostic triad.

ETIOLOGY

The exact cause is not known. Tuberculosis of the gland has been listed as one of the principal factors even since Addison's time. Various reports have been compiled from autopsy records and these vary from 55% to 90% insofar as tuberculosis is concerned. Of 75 cases[2] examined by three different investigators, 62 cases or 82.6% showed tuberculosis of the gland. Rountree[2] therefore seems justified in saying, "The remote cause, insofar as a practical point of view is concerned, is bilateral tuberculosis of the gland in 80 to 90% of the cases; and to atrophy of unexplained origin in 10 to 20% of the cases. The intermediate cause is deficiency of the cortical hormone which appears after about four-fifths of the gland substance has been destroyed by pathological processes." It has been pointed out, however, that this explanation did not take into consideration the possibility that the fault or causative factor might be due to a degenerative change in the chromaffin system as a whole.

Snell[3] in 1935 stated that lesions of the suprarenal gland encountered at autopsy recently showed tuberculosis on the decrease and atrophy of the gland on the increase. He cited 30 cases in which 17 showed atrophy and 13 tuberculosis.

Boyd[1] in his 1935 text, "Pathology of Internal Diseases," states: "We know as much of the cause of the disease as Addison did and no more." Boyd also calls attention to the fact that renal tuberculosis seldom involves the adrenals and never is the cause of Addison's Disease.

INCIDENCE

Osler[4] stated the disease was rare. Only 17 cases were seen in the United States in 21 years. Roundtree[2] in Cecil's latest text of medicine states, "that of 100,000 admissions to the Mayo Clinic, only 16 cases are seen." It is seen almost twice as frequently in males and is more frequent between the ages of 30 and 50 years. Werner[5] estimates that between 300 and 400 cases are now reported annually in the United States and gives the death rate at about 0.4 per 100,000.

Although Addison's Disease is readily diagnosed in its second stage, its earlier picture is not so clear cut. Hemachomatosis or bronzed diabetes (one case of which, with the pathological findings, was presented to the members of the El Paso County Medical Society four years ago), may offer a confusing picture at the onset. Pellegra, Grave's Disease, melanosarcoma, xerodermapigmentosa, ochronosis and Van Recklinhausen's disease may also have to be considered.

An attempt at differential diagnosis is out of order here, but a word of warning to the wary. Any case of unexplained muscular weakness with a low blood pressure deserves careful study. An x-ray of the chest should be made for evidence of pulmonary tuberculosis, along with x-rays of the adrenals for evidence of calcification; and a close examination of the skin should be made for evidence of pigmentation. Blood chloride determination and basal rates are also of value.

It now seems next in order to ask something about the function of the supra-renal glands since the etiological factor or factors are apparently contained therein. However, since it is now generally agreed that only the cortical portion of the gland is involved in Addison's Disease, we shall limit our discussion mainly to this portion. Such a discussion of course takes us rapidly into the highly specialized fields of endocrinology and biochemistry and the opinions of men qualified to give them must of necessity be used freely.

It has been said that, "The function of the adrenal cortex is a mystery" and insofar as I know this statement still holds true. It has been suggested by some investigators that the adrenal cortex may regulate the carbohydrate metabolism.

Swingle[6] at one time was brave enough to intimate that he had a feeling that the primary function of the adrenal cortex was to regulate blood volume.

Loeb[7] said, "That until the cortical hormones are are available in large amounts, the function of the adrenal cortex will remain shrouded in mystery and confusion."

Thus far we have said nothing other than, "No one knows." It is known, however. that if as much as four-fifths of the cortical portion becomes involved in a diseased process in man that Addison's Disease follows. It is also known that if the cortices are extirpated in experimental animals, death will follow unless sufficient amounts of the hormone are thereafter administered. As far back as 1865 Brown-Sequard reported that removal of both adrenal glands in animals caused death in 24 hours. Kendall[8] writing recently said, "The function of the adrenal cortex has been obscure because no one has been able to show what chemical change was involved and therefore it was impossible to determine what other factors influence this change. Recently it has been shown that cortin is concerned with the distribution and excretion of sodium and potassium and that rats fed on cortin excrete as much as ten times as much potassium as those not fed."

Loeb[9] and his co-workers in 1933 also observed that dogs with adrenal insufficiency excreted excessive amounts of sodium and chloride in the urine. He further suggested that the crisis in Addison's Disease might be provoked by a similar loss of electrolytes. Wilder,[10] Kendall, Kepler, Rynearson and Adams observed that the administration of potassium to patients with Addison's Disease provoked the excretion of chloride and sodium and thereby precipitated a state of crisis. Therefore, a diet low in potassium was advocated.

Maronon and Collazo[11] attributed the dehydration in Addison's Disease to a disturbance of the equilibrium between potassium and sodium of the plasma and believed that one of the functions of the cortical hormone was the maintenance of this relation. Someone else suggested that the toxicity of potassium and its action on muscle fiber explained the asthenia in Addison's Disease.

In October, 1927 Rogoff and Stewart[12] and Hartman[13] and his co-workers independently published that they had produced extracts of the adrenal cortex which would definitely prolong the lives of adrenalectomized dogs and cats. In 1929 Swingle and Pfiffner[14] prepared an extract of the cortex of beef adrenals by means of organc solvents. With these experimental findings thus noted in animals the use of the hormone in humans with Addison's Disease was soon forthcoming.

Earlier reports were perhaps over-enthusiastic and tended toward the miraculous; retrenchments and retractions have thus become necessary but not entirely to the point of pessimism. Stewart and Rogoff have called their extract "interrenalin" while Swingle and Pfiffner designated their product as "cortical hormone." This latter extract is now on the market under the trade name "Eschatin." Hartman and his co-workers designated their extract as cortin."

Little has thus far been said in defense of the adrenals other than to say that the cortex contains the hormone of life-giving value. Within recent years much blame has been put on the adrenals for causing this or that condition. Such a wide variety as excessive hairiness in the female, virilism in the male, gastric ulcer, epilepsy, hyperthyroidism, arterial hypertension and spontaneous gangrene have been blamed on the adrenals. Space is too limited here to discuss the perhaps too popular operation of bilateral denervation of the adrenals, but suffice it to say such an operation is definitely contraindicated in Addison's Disease.

TREATMENT

Just as in pulmonary tuberculosis, where the treatment was limited to hygiene and rest prior to the advent of the x-ray and collapse therapy, so with Addison's Disease prior to the use of cortical hormone and low potassium diet, the treatment was symptomatic. Stewart believes that great harm came out of the idea that epinephrine was the real hormone of the adrenals and emphasizes that the medullary portion of the gland has little function, at least insofar as Addison's Disease is concerned. He cites as proof those cases coming to autopsy for some other reason, in which the medullary portion of one or both glands was involved in some tumor growth, yet no symptoms of same were present prior to death.

Thus with the original idea that the medullary portion of the gland was all important, with the advent of epinephrine, it was logical that epinephrine should be advocated in the treatment of Addison's Disease. Dr. Muirhead, who suffered from Addison's Disease, was treated at the Mayo Clinic in 1920 with epinephrine and thereafter the Muirhead tretament was in vogue. For several years this, plus the use of rest and certain variations in diet, was about the only treatment used.

This treatment can perhaps be best described by saying that it consisted in giving the patient epinephrine solution to the point of toxicity and giving it in as many ways as possible. Dr. Snell of the Mayo Clinic in 1929 was still of the opinion that this treatment was the best advocated up to that time. The use of epinephrine in large doses did increase the blood pressure, but only temporarily.

With more study and closer supervision the cortical hormone came more into use and now some ten years after its discovery, data is available in several comparatively large groups of cases.

Hartman[15] and his co-workers reported 23 cases by 1932 treated with cortin. One cc. of this extract contained the product of 40 grams of cortex. Rogoff[16] in reporting his 20 cases in 1932 and using interrenalin, advocated 4 to 8 doses per day by mouth and stated this amount corresponded to about two beef glands and five sheep glands.

Roundtree and Barker in using Eschatin showed a rather wide variation as to the amount used. No matter what product is used the cost becomes almost prohibitive and especially in the periods of crisis, when such large quantities of the hormone are necessary. At the present cost of these products, as much as $10 to $12 worth per day may need to be used for several days. No set standard has been given as to the amount necessary and each case seems to be a rule unto itself.

One of the puzzling questions has been why cortical hormone in excess dosage does not produce toxic effects such as insulin, thyroxin, epinephrine and parathormone produce. The patient seems to tolerate almost any amount. In those cases under control and doing well perhaps 1 c.c. given daily is sufficient. Even short intervals without the drug may be advocated. It must be remembered, however, that this is a disease in which remissions and relapses or crises are common and occur for no reason seemingly at all. During these crises, 5 c.c. to 30 c.c. per day are needed. Some of these products are now listed as to number of units of cortin present.

Wilder[19] and his co-workers at the Mayo Clinic deduced that the limiting of the intake of potassium might influence the course of Addison's Disease, thus for some time now a diet poor in potassium has been advocated. Their results have been reported as good and others now are carrying out this same plan. I believe that they are now able to carry on their treatment of Addison cases in most instances without the use of cortical hormone.

All these cases show a low blood chloride and many of them have done well on a diet high in salt or sodium chloride given in capsules. One to seven grams may be given daily. When these patients are in a crisis and continuing vomiting persists, intravenous injections of glucose and saline are quite beneficial. At the Mayo Clinic the following are kept on hand for emergency use in their cases of adrenal insufficiency and given when needed: 1000 c.c. of sterile solution containing 50 grams of dextrose, 10 grams of sodium chloride, 5 grams of sodium citrate and 20 c.c. of active preparation of cortical extract. We have used sodium chloride in 5% strength and give 1000 c.c. This produces a severe headache but shows definite beneficial effects some six to eight hours later. Frequent gastric lavages are quite helpful to the comfort of the patient during crises.

CONCLUSIONS

1. A case of Addison's Disease has been presented which has been successfully treated through three critical periods during the past 6 years.
2. It is believed this case has had Addison's Disease for at least 10 years.
3. Permanent relief or cure of this disease still seems doubtful.
4. The etiological factor in Addison's Disease is still unknown. Tuberculosis of the glands seems to play an important role.
5. The exact function of the adrenal cortex is not known.
6. Addison's Disease is believed to be due to some lack of function in the cortical portion of the gland, and not the medulla.
7. The use of cortical hormone is advocated, especially in periods of crises.
8. A diet poor in potassium is proving to be beneficial.
9. The blood chloride is lowered, therefore must be supplied.

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Collapse Therapy in Tuberculosis

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COLLAPSE therapy is so necessary in the treatment of tuberculosis that no one nowadays can undertake to advise and follow a case without knowing at least some phases of it. At the present time there is probably no physician who is treating tuberculosis from a strictly medical standpoint, with the exception of those who are purely consultants.

One who is engaged in active treatment of tuberculosis will follow the old and proven procedure of putting his patients to bed. However, in a large percentage of his patients he will soon decide to use the simplest form of lung collapse, artificial pneumothorax. This method of collapsing the diseased lung was first introduced into this country by the surgeon, John B. Murphy, but has gradually come to be used by medical men everywhere, and properly so. I feel that artificial pneumothorax should be attempted in every patient who shows cavitation in one lung or in both lungs provided the degree of involvement is not so great as to have reduced the vital capacity below the limit needed for life. It is remarkable how little visible lung space as shown by the x-ray is necessary to maintain life. In addition to those patients who have cavities artificial pneumothorax should be considered as treatment for the patient who fails to improve after a reasonable time in bed. I should not delay more than two or three months before starting pneumothorax even in a patient without cavities, who did not show definite improvement. Some men consider that pneumothorax should be used in every case, even those with minimal tuberculosis. Certainly it is true that we have in pneumothorax a method of healing the lung so thoroughly that often it is impossible to tell on x-ray films made after the lung has been re-expanded which of the two lungs had been collapsed. Artificial pneumothorax, even when complete and uncomplicated, has failures, but these are exceedingly rare.

PHRENIC NERVE SURGERY

Some men who are adept in the treatment of tuberculosis prefer as the first step a phrenic nerve operation to pneumothorax, particularly in a patient with a one-sided tuberculosis who has not a cavity, but who does not improve on bed rest. My own preference is for pneumothorax for the reason that paralysis of the diaphragm is a passive mode of treatment and for the reason that it takes some time to determine whether the paralysis will succeed in curing the disease. If it does not succeed then pneumothorax must be used. This is an active method of treatment and I would prefer using it first rather than withholding it. Adhesions may form and prevent pneumothorax if it is withheld too long. In case artificial pneumothorax is entirely unsuccessful because of the presence of diffuse adhesions about the lung and inability to get air into the chest, the phrenic nerve operation is advisable in a unilateral case without delay. The phrenic nerve and accessory nerves which may be present should be crushed rather than cut or removed. A few years ago we removed many nerves and I am sure we did harm by destroying permanently the function of the diaphragm. This is particularly true in patients whose principal disease is in the upper part of the lung. Some of these patients at least will fail to recover from use of the phrenic paralysis alone and will later need thoracoplasty. If the disease is limited to the upper part of the chest collapse of the diseased area by a partial thoracoplasty may be successful, but the remainder of the patient's lung will be of little use to him unless he has the function of the diaphragm. However, if the patient's disease is predominant in the lower part of the lung it may be that a permanent paralysis of the diaphragm will be advisable. It is perhaps advisable first, however, to crush the nerve. This allows the paralysis to recover after an interval of six to eight or ten months as a rule, and crushing may be done again at that time, or a permanent paralysis established by cutting the nerve or removing it. The nerve may be crushed more than once if desired. We have occasionally seen remarkable closure of cavities in the upper part if the lung following removal of the nerve. But in most of these cases I believe that cavity has recurred after a lapse of one to three or four years. Occasionally paralysis of the diaphragm may be useful in association with artificial pneumothorax. I have used it in some patients who had disease of the lower lung, successfully and Dr. Phillips has reported that some patients who had incomplete pneumothorax because of pleural adhesions secured closure of their cavities when we had done a phrenic nerve operation.

PNEUMOTHORAX

We come to pneumothorax again. Matson, in a large series of pneumothorax cases has estimated that about 20 per cent of the patients had diffuse adhesions, permitting no air to be put into the pleural cavity. About two-fifths he found to be relatively free of adhesions. In about two-fifths of the cases he found that adhesions prevented sufficient cillapse of the lung to permit closure of the cavity. In at least one-third of these cases with adhesions successful pneumothorax may be established by the cutting of adhesions. Adhesions may be cut

with cautery or with galvanocautery, either by opening the chest and working under direct vision or by the intrapleural closed method of Jacobaeus. In my opinion the latter method is safer and causes the patient less discomfort. The number operated by the open method so far has not been large, but in the hands of several operators has been successful. In my own cases and in numerous series that I have reviewed the percentage of successful closed operations has been about 70. It is advisable to look into every chest that offers any possibility of cutting the adhesions. In determining the operability of a case we cannot depend entirely on the x-ray picture of the chest. These do not clearly show the extent of adhesions. Many small adhesions which are present do not appear on the x-ray film. On the other hand, occasionally the x-ray films may cause an adhesion to appear too large to operate upon when, as a matter of fact, on inspection it is found to be readily cut. For such inspection of the chest the closed method is preferable. In many cases we have cut adhesions in both sides of the chest when we were carrying on a bilateral artificial pneumothorax. This operation is indispensable in collapsing both sides of the chest, for it allows us to bring about a collapse of the affected parts of both lungs and avoids the necessity of collapsing more of the lung than is involved in the disease process.

THORACOPLASTY

If pneumothorax is impossible because of adhesions, and the patient does not improve on bed rest and the use of paralysis of the diaphragm, we must consider collapse of the lung by means of removal of the ribs. This is always true when large cavities are present and should not be deferred when the cavities present are small. Occasionally a patient with very small scattered cavities must be submitted to thoracoplasty. A few years ago the majority of patients we saw were obliged to have practically all of the ribs removed because of extensive disease. In recent years we are seeing patients for thoracoplasty at an earlier stage in the disease. The majority have upper lobe lesions. These patients can be treated with partial thoracoplasty, usually the removal of five to seven ribs, and a portion of the lung can be saved for future use. Upper thoracoplasty may be done on both sides of the chest. I have two patients at least in whom a four-rib thoracoplasty has closed the cavity. Unfortunately, a mere section of ribs is not sufficient. We have found that each case must be carefully studied and all the rib structure enclosing or encroaching on cavity or cavities or diseased lung must be removed. In addition we must in many cases take also transverse processes of the spine and the costal cartilages. The diseased lung has a remarkable property of collapse by atelectasis. It is held firmly to the ribs by pleural adhesions. When the ribs are removed the chest wall is allowed to fall in. The lung contracts and small cavities are closed. If cavities are large the walls may be composed of rather stiff fibrous tissue and these cavities may need external pressure after the ribs have been removed in order to bring about closure. In many of our cases a few years ago, after the removal of ribs cut at the spine, we found that a cavity at the apex would contract into the neighborhood of the upper mediastinum. Here it was protected by the transverse processes of the spine and no pressure would close it. Therefore, it is customary now in a case of large cavities to remove a portion of the spine and also to carry the rib resection toward the front as far as the border of the sternum. In this way the maximum collapse is obtained.

Even with this complete removal of ribs we sometimes see a remnant of cavity remaining at the edge of the mediastinum. To combat this failure operators are now freeing the lung entirely from the apical attachments at the time of operation and so collapsing it from the apex downward. The lung is attached at the apex to the spine and, through the periosteum of the first and second ribs, to the scalenus muscles. These prevent the very top of the lung from collapsing downward at the time of thoracoplasty. The effect then of removal of the ribs is to permit an inward, horizontal collapse. By freeing the lung it is possible to obtain also a downward, vertical collapse of the apex of the lung as low as the fourth or fifth vertebrae. When this is successfuly done residual mediastinal cavities are prevented. This particular operation is dangerous because the lung must be stripped not only from the attachments at the apex but must be separated from the mediastinum and there are large vessels which can be perforated. One operator of wide experience told me recently that he felt this procedure was too dangerous. However, others have told me they think it can be done with care. It is my opinion that this particular procedure is of great value and will be found to produce more uniformly good results in thoracoplasty operations than we have had heretofore.

Thoracoplasty is of course, a serious operation, but with modern methods of handling patients, the percentage of operative mortality has been reduced very much. I believe we can safely say that the risk is no greater than that of a major abdominal operation where the surgeon often has also to deal with a patient in subnormal condition.

The chief safety factor perhaps is the ability that has been gained to estimate a patient's condition for operation and the needed preoperative care or treatment and the proper postoperative care. Not less important is the estimation of how much one may do at a given operation. It was customary as late as four or five years ago to cut five or six ribs at one operation. The patient nearly always went into shock. At the present time we take two or three and never more than four ribs, and even as little as one rib. The next safety factor is the spacing of successive operations. In other years we did not dare wait more than two or three weeks usually between operations because of the fact that the periosteum would have time to regenerate and form new bone, which would prevent the maximum desired collapse if these new bones were not removed.

It has been found possible by treating the periosteum at the time of operation with formalin or with some other chemical, or by using actual cautery, to prevent the regeneration of ribs, and the operations can be spaced farther apart so that the patient can have opportunity to recover from one operation before another is undertaken. If the apex is fully freed as previously suggested it is customary to remove the periosteum together with the intercostal bundles and this allows one to wait as long as may be required before going ahead. The selection of cases for operation is of course important, but unfortunately the thoracic surgeon cannot refuse operation to the patient whose condition cannot be otherwise improved, if, as is often the case, it is the only means through which some relief may be afforded.

OTHER METHODS OF COLLAPSE

Some other procedures than those discussed have been used as lung collapse measures. Cutting the scalene muscles or scaleniotomy allows the first and second ribs to fall downward and compress somewhat the apex of the lung. This may conceivably close a small apical cavity without resorting to thoracoplasty. Section of all or most of the intercostal nerves to stop motion of the chest wall has been used in a few cases and is of some value in preparing the patient for thoracoplasty. Extrapleural freeing of the lung from the ribs, collapse of the diseased lung by manual pressure and insertion of a pack extrapleurally to keep the lung collapsed may occasionally be of value in my experience. This method had a very wide vogue some years ago because of the fact that it was less dangerous than thoracoplasty. However, our experience has shown that the final results from use of the extrapleural pack are not comparable in any way to thoracoplasty.

In one case cavity drainage was useful in preparing a patient during some months for thoracoplasty.

An operation not as yet of general use is that of lobectomy or pneumonectomy. This is never the operation of choice because the wound and pleura always become infected with tubercle bacilli which will be difficult to control. Thoracoplasty must be performed subsequently, in many cases at least, and unless some form of overcoming the infection is discovered this operation will not be generally favored. Lobectomy and pneumonectomy have been performed less often for tuberculosis than for carcinoma.

SUMMARY

Collapse therapy in tuberculosis may not be limited to any one procedure. Each patient is an individual case and must be treated according to the indications which present themselves. One form of collapse may be indicated first, then other forms may be used as the case progresses until the active tuberculous tissue has been collapsed. When this has been accomplished by mechanical means the patient is not yet well, but must continue under medical observation until nature has been able finally to heal the affected areas.

Professional Bldg.

Effect of Phrenicectomy on Digestion

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IT IS a well-known fact that phrenicectomy is sometimes followed by gastrointestinal disturbances. Although the series presented is small, it serves to point out the definite gastrointestinal symptoms following paralysis of the hemidiaphragm and what may be subjectively expected from the patient. Although these symptoms are unimportant in relation to the importance of the tuberculous lesion, I feel that, in view of the occasional severe disturbances to digestion produced, that one should tend to be more conservative when deciding between temporary and permanent paralysis of the hemidiaphragm.

Series of observations have been made by Ehrenburg, Guns and Graham concerning the relation of cardiospasm, anatomical rearrangement of abdominal viscera and other roentgenological changes following phrenicectomy. My interest is mainly in the subjective manifestations and their relation to right and left-sided paralysis of the diaphragm. I have taken twenty-three successive cases of phrenicectomy and evaluated symptoms relating to the gastrointestinal tract, before and after surgery. Of the twenty-three there were twelve left-sided "phrenics" and eleven right-sided. Patients were questioned about anorexia, nausea, vomiting, constipation, gas formation, abdominal pain, belching and defecation difficulty.

Of the eleven right-sided phrenicectomies eight reported no change in the state of digestion after three months. Of the twelve left-sided phrenicectomies, nine, or 75%, reported that some variation was noted. Thus, it seems, that subjective gastrointestinal complaints are more apt to follow left-sided phrenicectomies than right-sided.

EVALUATION OF SYMPTOMS

Anorexia — Appetite is an important factor in treatment of the tuberculous patient because the general well-being and resistance of the patient largely depends upon amount of diet taken. Of the eleven patients who had right-sided phrenics, three reported that their appetite before operation was much better than after. In two of these patients anorexia was enough of a problem that they failed to gain further weight, after all efforts to stimulate their appetite were exhausted. Of the left-sided phrenics, an interesting bit of knowledge was gleaned. Four patients reported that they noticed

distinct improvement in appetite following operation, but five said that their appetite was worse. Three reported no change. No explanation of the marked improvement in appetite in these four patients is forthcoming.

Nausea—One right-sided phrenic reported that post-tussic nausea that existed preoperatively was lessened postoperatively, but this seemed in relation to diminution of cough and sputum resulting from the operation.

One left-sided phrenic suffered severely of nausea, post-tussic and post-cibal, after the operation.

Vomiting—The right-sided phrenic who reported decreased nausea also reported decreased morning post-tussic vomiting, apparently for the same reason.

In the left-sided group three patients who preoperatively made it a habit to vomit after cough vomited no more, postoperatively. One patient stated that he was bothered with post-tussic vomiting only since the operation.

Belching Difficulty—It is well known that belching of gas is a bad habit usually due to faulty eating habits with subsequent swallowing of air. A total of three patients in this group made a habit of belching. These three were given left-sided phrenicectomies and stated sincerely that thereafter they had difficulty in belching, having to make the effort more prolonged and then the expulsive force was much diminished. As one of the patients said, "I just can't make as much noise as I used to."

Constipation and Defecation—One patient who had had a right phrenic operation reported constipation and difficulty in expelling feces, postoperatively. Three patients with left-sided phrenics reported the same difficulty. All these patients reported that they could not get force behind their expulsive movements and after stool felt that some feces were retained.

Gas—By gas is meant a subjective complaint of sense of fullness and abdominal distension after eating. Three left phrenicectomies had more gas postoperatively and one left phrenicectomy had less. The right phrenicectomies noticed no difference.

Others—One patient who had had a right phrenicectomy developed hemorrhoids, postoperatively, but this was associated with constipation. I do not believe that this has ever been noted as a complication of phrenic nerve operations. No abdominal pain resulted.

DISCUSSION

After paralysis of the hemidiaphragm with subsequent elevation it is only natural that abdominal viscera follow the rise of the diapragm and come to lie in a different position than previously. On the right side of the liver precludes much displacement of the viscera, but the left side invites marked latitude in position change. It is known that left-sided phrenicectomies cause upward displacement of the stomach with the production of a large gas bubble and occasionally upward displacement of the colon. It has been thought that spasm of the cardiac end of the esophagus is relieved by cutting the phrenic nerves. This might explain the improvement in appetite in four of our left-sided phrenicectomies. Angulation of the abdominal portion of the esophagus may explain the anorexia produced in five others.

Although dysphagia has been given as a complication of phrenicectomy in other reports, it was not observed in this series.

Again, may I urge conservatism in deciding between a permanent and temporary phrenic nerve operation. It might be better for the patient to have two or even three crushing operafions than be a digestive cripple for life.

CASE REPORT

J. C., a 29-year-old white male, came under my observation with left exudative and caseous pulmonary tuberculosis with cavitation. Onset of the symptoms was three weeks before, with hemoptysis, cough and sputum. His lesion was rather acute of pneumonic type, and because of continued hemoptysis artificial pneumothorax was attempted on the left, but a free pleural space was not found. After two weeks of absolute bed rest. with periods of moderate bleeding, the left phrenic nerve was extracted. One week postoperatively he complained that he had lost his appetite and felt bloated. He admitted that since the operation he had not moved his bowels satisfactorily in spite of taking large amounts of mineral oil nightly. Further questioning revealed that he was continually nauseated and had weak expulsive force when he attempted to move his bowels, which, therefore, resulted in inadequate bowel movement.

After eating he developed distension and would bloat up with "gas," but had difficulty in belching it. Cascara sagrada and mineral oil were given nightly with no change in the patient's condition. Rectal examination revealed the rectum full of soft feces. An oil retention enema was followed by a large frothy bowel movement. The patient's appetite decreased markedly and only by pushing milk and cream into the diet was he able to hold his weight.

Fluoroscopy, after barium meal, revealed elevation of the left hemidiaphragm with a large air bubble in the stomach. Fluoroscopy was otherwise normal. Barium enema revealed no abnormalities of the colon other than the splenic half of the transverse colon was elevated.

Three weeks postoperatively the patient was given a low-residue, low-carbohydrate diet. Milk and cream were given one-half hour postcibal. Tincture of belladonna and drams one of equal parts of calcium carbonate, sodium bicarbonate and magnesium oxide were given one-half hour before meals. This regime diminished the amount of distension and nausea, but had no effect on the appetite, constipation or fecal expulsive difficulty. Oil retention enemas had to be given every five days to keep the patient comfortable. Three months postoperatively the derangement of the gastrointestinal tract still existed with only partial relief afforded by medication and management.

SUMMARY

1. Conservatism in phrenicectomy as to extraction or crushing is urged.

2. Left-sided phrenicectomies are followed by gastrointestinal changes in 75%, while right-sided phrenicectomies in only 27%.

3. Anorexia is occasionally relieved by left-sided phrenicectomies, but produced in more cases.

4. Most gastrointestinal disturbances following phrenicectomy can be explained on a mechanical basis.

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Peroral Endoscopy as an Aid in General Diagnosis and Treatment

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MANY are aware of the dramatic usefulness of the bronchoscope and the esophagoscope in cases of emergency extractions of foreign bodies in the lungs and in the esophagus. For some time this emergency extraction of foreign bodies was the only use to which these instruments were put. Gradually this branch of medicine has grown to occupy a well-marked field of its own. So that many larger clinical centers now maintain full departments of bronchoscopy and esophagoscopy. These measures can be of high value to the practitioner in various fields of medicine who is confronted with certain difficult diagnostic problems. It would seem useful to discuss briefly the indications, contra-indications and scope of usefulness of peroral endoscopy, which includes both bronchoscopy and esophagoscopy.

BRONCHOSCOPY

Some indications for bronchoscopy:

1. *Removal of Foreign Bodies.*

It is well known that many cases have been wrongly diagnosed as asthma, tumors, tuberculosis and abscesses that were found later to be due to aspirated foreign bodies in the lungs. Jackson has reported a case which had been treated over a period of twenty-five years for an obscure lung condition that cleared up immediately following the removal of a metallic foreign body in the lung. So that the case of lung pathology in which the diagnosis is not absolutely clear-cut might benefit from a diagnostic bronchoscopy. It is usually easy to recognize the need for emergency removal of a foreign body following its aspiration. But unless the practitioner remembers the valuable help that may be rendered by bronchoscopy, he may fail to give his chronic patients the benefit of a complete diagnosis. Jackson outlines the indications for foreign body bronchoscopy as follows:

a. The appearance in the x-ray of a foreign body or any suspicious shadow.
b. Cases in which a history is given of the patient having choked on a foreign body with the latter not having been found.
c. For signs of stenosis in the trachea or bronchus.
d. Any case of suspected bronchiestasis, to check the possibility of foreign body.
e. In the patients with symptoms of pulmonary tuberculosis where bacilli cannot be found in the sputum, especially if the physical signs are at the right base.

2. *Unexplained Hoarseness.*

Sometimes tiny tumors of the vocal cords cannot be diagnosed under any other procedure than laryngoscopy.

3. *Post Operative Atelectasis.*

Following operation sometimes patients develop atelectasis, probably due to aspiration of secretions from the nose or throat. The bronchi may fill with a mucoid type of fiuld, which may become purulent and may finally end in a lung abscess or bronchiectasis. Many surgeons now order a bronchoscopy done on any patient who shows signs of developing atelectasis following an operation. It is apparent that this measure may often shorten the period of post-operative recovery, not to mention its preventing serious complications.

4. *Persistent Cough.*

Cases where there is a persistent, unexplained cough of over a month duration should have a diagnostic bronchoscopy. Sometimes cases of lung malignancies are found in this manner. Sometimes cases of a peculiar type of dry, inflamed bronchus are found which respond to topical applications through the bronchoscope. Again, foreign bodies have been known to cause a persistent cough. The reason for such a cough may be most difficult to establish unless bronchoscopy is done. Sometimes the diagnosis of broncho-pulmonary spirochetosis or moniliasis is confirmed by use of the bronchoscope.

5. *Biopsy.*

If the diagnosis of pulmonary neoplasm has been made, by all means a piece of tissue should be taken from the tumor for laboratory study. Therapy and prognosis will depend upon the type of new growth as established by the pathologist.

6. *Acute Respiratory Diseases.*

Sometimes the membrane of diphtheria will need to be removed bronchoscopically. One of the greatest aids in treatment of acute laryngotracheo-bronchitis is the removal of plugs of exudate from the bronchi by way of the bronchoscope.

7. *Bronchiectasis.*

After the diagnosis has been made, many of these patients will get a large amount of relief from periodic drainage of the bronchiectatic cavity through the bronchoscope. At the same time, medicaments, such as iodized oil, may be left in the cavity.

8. *Lung Abscess.*

In addition to other favored treatments of this condition, bronchoscopic cleansing of the abscess cavity that communicates with the bronchus is certainly a valuable procedure. Aspiration of these cavities should probably be done twice weekly.

9. *Asthma.*

To remove sticky secretions and give comfort.

Bronchoscopy has been said to be contra-indicated in such conditions as aortic aneurism, certain cardio-vascular diseases such as extreme hyper-

Read before El Paso County Medical Society and Lea County (N. M.) Medical Society.

tension, and most acute upper respiratory infections. Patients with a collapsed lung from phrenicectomy or artificial pneumothorax need not be denied bronchoscopy. The master, Chevalier Jackson, recognizes no absolute contra-indications. It is axiomatic that the bronchoscopist should work in close communion with the physician in charge of the case.

ESOPHAGOSCOPY

Esophagoscopy should be done for:

1. *Foreign Body Removal.*

It is a grave mistake in the cases with a foreign body in the esophagus to advise them to swallow quantities of bulky foodstuff in the supposition that it will dislodge the foreign body and force it into the stomach. The esophagus is a thin-walled muscular tube which is unprotected by cartilaginous rings such as are found in the trachea. Therefore, foreign bodies lodged there are more apt to tear the delicate tissues and set up inflammatory processes, which may prove to be fatal. A little reflection must lead to the conclusion that the procedure of attempting to force foreign bodies down into the stomach by having the patient eat such things as bread and mashed potatoes may be fraught with grave consequences.

2. *Laryngismus Stridulus.*

Sometime during the course of any medical practice, the physician will be confronted with a patient who claims difficulty in swallowing, with choking sensations when attempting to do so. Many times these patients become terror-stricken and at the same time choke all the more. Often these cases are put down as hysteria and little is done for them except the prescribing of bromides or placebos. A dilatation with the esophagoscope will often cure these patients after the first treatment. At the same time it is possible to explore the esophagus for possible stenosis or neoplasms or inflammatory processes.

3. *Biopsy.*

Material from a new growth in the esophagus is easily obtained through the esophagoscope. The patient should not be denied the benefit of laboratory study of sections of any tumor that may be lodged in his esophagus.

4. *Cardiospasm.*

Many of these cases are benefitted by dilatation with an esophagoscope.

5. *Esophageal Stenosis.*

It is damnable, but true, that many people leave such caustics as lye within easy reach of children. We wish that every physician who enters a home and sees such strong chemicals stored so that children can get at them would forthwith give that family a stern lecture about the terrible danger inherent in these household articles. Once a child has swallowed such a chemical as lye, it is good practice to begin treatment with the esophagoscope almost immediately. It is not advisable to wait until more or less complete stenosis has developed in the esophagus. If treatment is delayed until a cicatrix has become well organized, hope of an ultimate cure may be just about abandoned. Early treatment, however, many times prevents extensive scar formation, and may serve to keep the esophagus satisfactorily open. So, by no means should early esophagoscopy be denied the unfortunate patient who has swallowed a caustic.

The contra-indications for esophagoscopy are about the same as for bronchoscopy. Caution must be observed in a patient with esophageal varicosities and necrotic esophagitis.

SUMMARY

In this brief review we have tried to focus attention on some of the many uses of peroral endoscopy in addition to its most widely known function, i. e., the removal of foreign bodies from the air and food passages. True, in this dramatic phase of the work, many lives are saved. But it is our plea that the physician remember that there are other quite as useful, if less dramatic, purposes to which peroral endoscopy may be put. This technique of surgical practice lends itself to the employment of the most reliable of the five senses, that is, sight. It may be trite to recall this observation, but with a bronchoscope or esophagoscope the surgeon sees and feels. He doesn't have to depend upon listening or smelling or tasting. The judicial, intelligent utilization of the skill of the endoscopist will often bring highly valuable aid to any physician who is called upon to handle cases involving the air or food passages. Endoscopy should be called on oftener, for it has much to offer.

1st National Bank Building.

Retinal Glioma

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RETINAL glioma is a very malignant tumor of the retina which affects infants in the first few years of life. In about 80 per cent of the cases it occurs before the end of the third year; it probably is always congential, but may remain quiescent for several years. In from 25 to 33 per cent of cases the disease is bilateral, the second eye being affected spontaeously and not by metastesis from the other. There are case histories of several members in one family being afflicted, suggesting that the growth may be hereditary.

The typical picture shows in the main two types of cells prevalent, one type being cells with small, round, well-staining nuclei and a small amount of cytoplasm. These cells are found with much vitality near the blood vessels, while toward the

Read before St. Joseph Hospital Staff Meeting, Phoenix, Ariz., Feb. 6, 1939.

thought that what we call glioma was in truth a neuro-epithelioma. Since then, other stains would suggest that they are true glial tissue cells. There remains some argument at the present time and it has been suggested that this tumor be called retinoblastoma, or simply "new cells in the retina."

The clinical course passes through three stages; first, the quiescent state in which the growth starts as a whitish nodule in the retina, often with a number of smaller growths around it. As the tumor enlarges, it often detachs the retina. The vitreous cavity is gradually filled and the growth produces a pinkish or yellowish reflex together with a dilated and fixed pupil, producing the appearance described as an "amaurotic cat's eye."

The second stage is that of glaucoma, and the very eyeball may enlarge with apparent or real exophthalmus. During this stage the lens may become opaque.

The third stage is the stage of extra-ocular extension. The glioma extends most commonly along the second nerve, but after the globe becomes filled with the tumor mass, this may break through anywhere.

The fourth and last stage is that of metastesis; the nearby lymph glands are early affected and another early manifestation is found in nodules in the cranial bones.

The prognosis is not good; probably 50 per cent show further metastisis in three years. Colonel Ashe at the Army Medical Museum has a series showing the relative mortality with various types of cells, and finds that when rosettes are present the mortality is much less, the proportion being without rosettes 100 per cent; with rosettes 12 to 15 per cent. Happily, the case to be reported had rosettes.

CASE REPORT

This case was a child two years and four months of age. He was first seen in October, 1938, and appeared in good health, except for the fact that he was rather small. He was one of four children, the others all being healthy. About three weeks previous to examination the mother began to notice something peculiar about the child's left eye, but later questioning produces the statement that a friend had previously noted something wrong with the eye as early as the month of July, 1938. When questioned, the mother stated she thought the eye was blind because it had the appearance of a cat's eye.

The right eye showed no abnormalities externally and intra-ocular examination indicated this eye to be normal. There was good vision in this eye.

The left eye showed injection of the anterior ciliary veins. The cornea was clear; the iris was darker than that of the normal eye and somewhat irregularly pigmented. The pupil was twice the size of the normal eye and fixed. With daylight, there was a grayish reflex coming from the inside of the eyeball.

Ophthalmoscopic examination showed no normal retina discernible. The nerve head was not seen. The inferior portion of the vitreous nasally was almost completely filled by a large tumor mass which extended almost to the lens. There was an additional lobe of this tumor mass in the temporal lower quadrant. The sharply descending edge of this tumor mass was concealed and extended higher than the normal level of the nerve head. Beyond this area, the general level of the retinal surface was more flattened, but clearly overlying some abnormal structure. The previously mentioned tumor masses were covered with finely distributed blood vessels, running in irregular anomalous fashion. There was a definite pinkish tinge to the tumor, while the more superior portion suggested a faint yellowish tint. Tension in the eye was 120 by McLean's Tenometer.

On the day following my examination, an enucleation was done on this eye and the child has had a normal convalescence from his enucleation. At the present time the right eye remains normal.

15 E. Monroe St.

Effect and Treatment of Arizona Scorpion Stings

MELVIN L. KENT, M.D.
and
HERBERT L. STAHNKE
Mesa, Arizona

MANY people of Arizona do not consider the scorpion dangerous. Yet more deaths have resulted from this arthropod since 1929 than any other venomous animal. This fallacy in common opinion has probably arisen as a result of several conditions. First, the average layman is not aware of the existence of more than one species of scorpion. To him scorpions are scorpions. Second, the venom of all species of scorpion is apparently not of the same chemical constitution as shown by experiments on white rats of the Wistar strain. Third, the reaction of the venom is conditioned by the size, age and physical condition of the victim.[1]

As has been reported previously,[2] the venomous effect of three common species of scorpions of the Salt River Valley has been determined by laboratory methods. These are the striped-tail scorpion, *Vejovis spinigerus* (Wood), the giant hairy scorpion, *Hadrurus hirsutus* (Wood), and the yellow slender-

Read before St. Joseph Hospital Staff Meeting, Phoenix, Ariz., March 6, 1939.

[1] A third and fourth factor may enter in here. The depth of the sting-penetration seems to have some influence upon the seriousness of the reaction within the same species. Likewise, a condition of seasonal potency is suggested by Dr. Ernest Cervera, director of the Institute of Hygiene of Mexico, in his pamphlet on "Anti-Scorpion Serum" for *C. suffusus*. This has not been experienced by the authors.

[2] H. L. Stahnke: "Science." 88 (2277):166-167, Aug. 19, 1938.

tailed scorpion, *Centruroides sculpturatus* (Ewing).

In order to obtain the effects of the sting under natural conditions, rather than a quantitative measure of toxicity, the scorpion was induced to sting the white rat, usually in the hind foot where there is little or no fur, and local reactions can be more readily observed. It was only with some difficulty that penetration could be secured by the sting of the two stronger looking species, *H. hirsutus* and *V. spinigerus*, while the slender *C. sculpturatus* could make its sting penetrate with apparent ease. Whenever a definite sting was obtained, the venom of *H. hirsutus* caused a swelling in the region of the sting so that the toes were about twice their normal size. In the case of *V. spinigerus* a swelling likewise occurred, but it was not nearly as great as that produced by the giant hairy scorpion. Outside of this swelling no other reactions from the venom were apparent. A slight nervousness was observed, but that was attributed to fright rather than to the venom. After about the first five minutes the rats did not even avoid walking with the swollen foot, even though the foot was sensitive when touched with a forceps. Within two to three hours all signs of the sting had disappeared. Rats stung by *C. sculpturatus* did not experience a local swelling, although the foot was favored, but the reaction seemed to be general and neuropathic. Death occurred within a period varying from ten minutes to one and one-half hours.

In the case of rats stung by *C. sculpturatus* a general description of events from the time of the sting until death may be stated as follows: Within one or two minutes after the sting, the rat shows signs of nervousness by a gentle alternate patting of the front feet on the floor of the cage. Then there appears to be an itching in the nose as the rat frequently goes through a vigorous cleaning reaction over that region. Soon after, the animal begins to sneeze and the nose drips a colorless fluid. The sneezing continues and finally develops into an apparently involuntary severe jerking of the head. At this time the animal is very sensitive to touch, so that if even the fur is lightly touched the animal jumps and squeals. The eyes, which are now dull and glassy, are blinked frequently. Salivation begins with the sneezing and continues throughout, so that the mouth becomes frothy and the cage floor quite wet. With the onset of excessive salivation, the animal frequently inserts the toes of its front feet into its mouth as though trying to dig out some object in its throat. The next major reaction is the violent, involuntary jumping of the animal. At irregular intervals it will jump against the walls of the cage, or about two to four inches into the air, and squeal as though in pain. Finally, after apparent exhaustion, and as a result of paralysis of its hind legs, it will fall on its side, breathing with great difficulty. Even in this state of exhaustion it will often attempt to continue jumping. When complete exhaustion sets in, the animal lies still, breathes with even greater difficulty, and succumbs. Death seems to be due to edema of the lungs and exhaustion.

The effect of the scorpion venom is quite similar in man as is shown by the following clinical evidence.[3] There has been 75 cases of scorpion sting treated in the Southside Hospital, Mesa, Ariz., between the dates, April 1930, to May, 1937. Unfortunately, the records of some of these cases are not complete. However, from a study of the material available, and from personal clinical experience, the reaction in the human is quite similar to that of the laboratory animal. The cases studied have ranged from four months to seventy years of age.

SYMPTOMS

Symptoms are invariably more pronounced in children. Stings by *C. sculpturatus*, unless treated at once, are almost always fatal to infants under one year of age. They are extremely dangerous to older children, and may cause serious inconvenience to adults. A child stung will cry out with pain. Most generally there is little sign of the sting, either in the form of inflammation or swelling. The victim soon becomes restless. The restlessness increases to a degree that the child becomes entirely unable to co-operate with attendants. It turns and frets; if placed on its back in bed it does not remain quiet an instant. Frequently it crawls across the bed and attempts to grab its mother or other attendant. The abdominal muscles may become rigid. There may be tonic contractions of the arms and legs. Drooling of saliva begins and the heart rate increases. The temperature may reach 103 to 104 degrees in a case that will subsequently recover. Cyanosis gradually appears, and respiration becomes increasingly difficult, causing a reaction not unlike that observed in a severe attack of bronchial asthma. There may be wheezing, especially on inspiration, such as is observed in laryngeal diphtheria where tracheotomy should have been done hours before. Involuntary urination and defecation may occur. In fatal cases the above symptoms become so marked that the child apparently dies from exhaustion.

In cases that recover, the acute symptoms subside in 12 hours or less. In the adult, symptoms as above enumerated may be encountered, but as a rule they are less severe. Numbness is usually experienced at the site of the sting. If one of the appendages has been stung, that member may become temporarily useless. Two cases of temporary blindness have been experienced. Some patients complain of malaise for many days following the

(Continued on page 124)

[3]The Department of Public Health, Institute of Hygeine, Popotla, Mexico, D. F., reports the general reactions of their species of CENTRUROIDES as follows: "There is an intense pain during the first minutes, accompanied by spasms and involuntary movements of the affected region. The patient gives signs of much anxiety, together with sneezing, salivation, dysphagia pains and intense thirst. Following these are generalized pains and lymphangitis around the site of the sting. Later the general pain diminishes, but local pain persists and paralysis of the pharyngeal muscles. In weak persons and children, these symptoms are more grave and frequently end with death."

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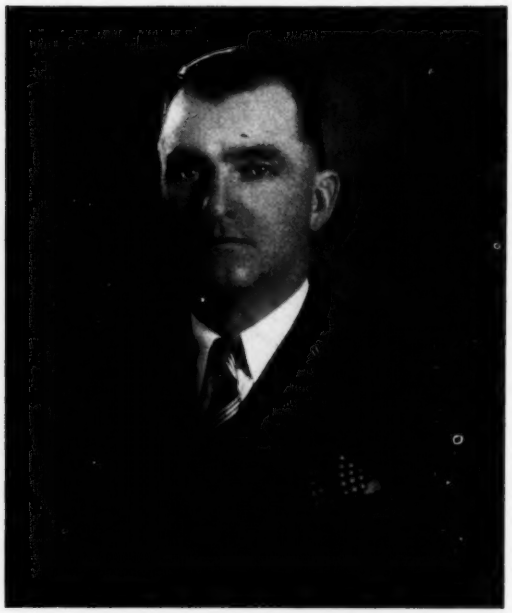

CHARLES S. SMITH, M. D.

At the forty-eighth Annual Session of the Arizona State Medical Association, held in Phoenix, April 13, 14 and 15, Dr. Charles S. Smith of Nogales assumed the office of president. He will serve until the 1940 session of the Association.

Dr. Smith was born June 13, 1892, in Edison, Georgia. He was educated in the local public schools. He took college work at Gordon Institute and the University of Georgia. His medical degree was granted him in June, 1914, by Emory University of Atlanta. He served a general internship at Atlanta Hospital during the years 1914-15. He then entered general practice in his home town of Edison. Georgia. In 1916 he married Miss Mary Allen Talbert of Edgefield, South Carolina. Dr. and Mrs. Smith have two children, Charles, Jr. and Mary Allen.

During the World War Dr. Smith served his country as a commissioned officer in the Medical Corps. Following the Armistice Dr. Smith served an internship in eye, ear, nose, and throat at St. Luke's Hospital in New York City. Following this he joined the staff of Beckley Hospital, Beckley, West Virginia, where he was chief of the eye, ear, nose, and throat department until 1927. He served the Raleigh County, West Virginia, Medical Society as secretary for three years. During the years 1923-24 he was vice-president of the West Virginia State Medical Association. He was secretary and president of the Beckley Rotary Club.

Moving to Arizona eleven years ago, Dr. Smith continued the practice of his specialty. He has twice been named president of the Santa Cruz County Medical Society. He has served this same Society as secretary for six years. Dr. Smith is vice-president of the Arizona Board of Medical Examiners, having been appointed in 1936 and reappointed in 1938 for a six-year term.

Membership by Dr. Smith is held in the following: Chi Phi (Academic), Phi Chi (Medical), Arizona State Medical Association, American Medical Association, Southwestern Medical Association, Santa Cruz County Medical Society and the Southwestern Academy of Eye, Ear, Nose, and Throat. At various times Dr. Smith has done post-graduate work in Chicago, New York, Los Angeles, and San Francisco.

In assuming the presidency of the Arizona State Medical Association, Dr. Smith brings to the office a vast enthusiasm and a depth of capacity for the tasks awaiting him as an officer in organized medicine in these trying days.

FIFTY-SEVENTH ANNUAL SESSION NEW MEXICO MEDICAL SOCIETY

Elsewhere in this issue will be found the complete program of the 1939 session of the New Mexico Medical Society to be held in Gallup, May 11, 12, 13. Dr. E. W. Fiske, of Santa Fe, retires as president at this meeting. To be elevated to the presidency is Dr. George T. Colvard, of Deming. The scientific sessions are scheduled at the headquarters hotel, El Rancho.

Extra mural entertainment will include a buffet supper for registrants and their ladies, a smoker with a floor show and a dinner dance on Friday evening. Visiting ladies will be given a reception, a luncheon, and a sight-seeing trip. Commercial exhibitors will display their wares in the lobby of the headquarters hotel.

The opening session will be addressed by John E. Miles, Governor of New Mexico. Following the presidential address a series of twenty-two scientific papers are to be presented. Most of the speakers are from out of the state of New Mexico; two come from El Paso, one from Phoenix, several from Denver, while others are to appear from various sections. As indicated by the number of papers scheduled most of the important fields of medicine will be thoroughly covered at the scientific session. The House of Delegates has several sessions scheduled at which time many important matters pertaining to the welfare of the medical profession in New Mexico are to be considered.

The various committees in charge of the meeting have extended themselves in an effort to bring some of the best-known teachers of medicine to Gallup for the instruction of Southwestern physicians. Dr. W. B. Cantrell served as general chairman of this year's meeting. Dr. D. F. Monaco as chairman of the scientific program, has accomplished a large task in inviting and assembling the astonishing array of speakers scheduled for the meeting.

Every year it is becoming more noticeable that there is an increasing exchange of registrants among the various state and regional meetings held throughout the Southwest. It is a healthy sign when Arizona and El Paso support New Mexico's meetings, and likewise New Mexico in her turn supports Arizona's and El Paso's meetings each year. All physicians in this Southwest have a great deal in common. It is quite fitting that we assemble at one another's official meetings each year and further cement our common interests.

The physicians of New Mexico, as always, extend a sincere invitation to all physicians in good standing of the Southwest to meet with them at their annual session.

PHYSICIAN'S FEES

Although there is a temporary lull in the windstorms regarding the "high cost of medical care" the advocates of the Newer Dispensation are not at all permanently silenced. There is less vote-grabbing oratory today directed at that famous whipping-boy, the physician's fees. Public revulsion has put at least a temporary ban on the late blatant denunciations of America's family physicians and their works.

During the zenith of the screaming it was pointed out by SOUTHWESTERN MEDICINE[1] that: "The average case of sickness is not costly to the patient from the standpoint of the physician's fees. Why then charge it all up to the doctor? Is he responsible for the high prices of serums, of prescriptions, of arsenicals, of gland extracts, of chemicals, of hospitalization, of dressings, of nursing care, of x-ray film? Rarely more than one-third of the cost of any case of sickness is embraced by the physician's fee. The balance of the cost must be charged to the drug store, the hospital, the nurse, the pharmaceutical and biological manufacturers. Yet the unfair cry is raised that the physician's fees are too high, and the demand is made on the government to furnish physicians with no cost to the sick man."

MacKenzie,[2] speaking before Tufts College students, says in direct support of the above: "Under modern conditions, medical science has become much more comprehensive, and is no longer synonymous with the activities of the handful of men comprising the regular medical profession. Of all the persons engaged in supplying the medical needs of this country, only one in nine is a licensed physician—a ratio which would be even lower if the total included the employees engaged in selling and manufacturing drugs and instruments. This huge auxiliary army of medical workers and the institutions which it represents absorb about 70 per cent of the money spent annually for medical purposes. The remaining 30 per cent represents the gross amount paid to physicians in private practice, of which an unestimated but indubitably large proportion is in turn required for overhead expenses, and is thus added to the 70 per cent just mentioned. . .

. . . Now, the 70 per cent of the medical budget not destined for practicing physicians is subdivided as follows: hospital facilities, 23 per cent; drugs (including patent medicine), instruments and miscellaneous, 20 per cent; dental care, 12 per cent; irregular practitioners, cultists, quacks, and so forth, 7 per cent; nursing care, 5 per cent; and public-health work, 3 per cent. That a considerable part of this money is now being spent as wisely and efficiently as it could be under any other system of medical care is unquestioned; it is equally true that its allocation is partially approved, even if not actually controlled, by the medical profession. By far the larger amount, however, is in the hands of lay people. Many of these, flagrantly contradicting the medical profession's own ideal of service, profit by the needs of universities, physicians and patients for medicines, instruments and laboratory equipment, selling this necessary material on the commercial basis of charging all that the traffic will bear. Real estate, automobiles and building materials—as vital to modern medicine as is scientific equipment—are rarely acquired without some 'humanitarian' realizing his 5 to 20 per cent margin of profit. Despite the physicians' avowed influence in hospital affairs, politicians, trustees and unpredictable dispensers of charity too often have actual control of the working of these institutions. A notorious evil, of course, is the relentless grasp of the politician upon the public-health work of many states and municipalities. . ."

Isn't it just possible that there is a growing, wide-spread conviction that the early barrage of smoke and gas is wafting back into the faces of those once most furious in their fervor to discredit the family physicians of this republic?

Questions of import may not be settled permanently without copious resort to reason. Can it be that, long delayed, sweet reason begins to rise over the ashes of yesterday's fire and fury?

1. S. W. Med., 22:230, June, 1938.
2. MacKenzie, M. V.: The Control of Medical Science. N. E. J. Med., 220:136, Jan. 26, 1939.

EFFECT AND TREATMENT OF ARIZONA SCORPION STINGS

(Continued from page 121)

sting. One patient developed a tachycardia lasting two weeks.

TREATMENT

In the treatment of patients suffering from scorpion sting it was found best to use morphine with extreme caution. It has not been found effective in the usual dosage. Barbiturates are more effective and less dangerous. Bromides in large doses are apparently of value. In those cases characterized by severe pulmonary edema, atropine is indicated along with general supportive measures. Compresses, using a fairly concentrated ammonium hydroxide solution, have been found quite helpful if applied within a few minutes. If these are applied for the first time about ten minutes after the sting, no apparent benefit is attained.

During the past 18 months, several of the more severe cases have been treated with scorpion serum[4] with results that are encouraging. Symptoms were controlled more rapidly, and, I believe, in no case has death occurred where the serum was used. The following case made a dramatic recovery:

A.J., boy, aged 3, stung on foot at 10:00 P.M. Child screamed with pain, mother found scorpion in bed near child's leg. He was brought into hospital at 10:20 P.M. Examination revealed a well-developed male child of 3 years. He seemed to be in extreme pain, was crying and extremely nervous and agitated. He was completely at a loss to know what to do. When placed on his back on examining table he would turn over on his hands and knees and reach for his mother. When in his mother's arms he would toss and struggle. Breathing was labored, respiration not increased. He was inattentive and would not co-operate in the least. Two grains of sodium amytol were given on admission. He became cynotic, and respiration became more labored. He was comatose. At this time 5 c.c. of serum was administered in the gluteal muscle. The result was startling. Within 5 minutes symptoms were less pronounced. In 15 minutes the child was almost symptom free and soon after fell asleep. Observation during the night revealed nothing abnormal. The baby left the hospital the following morning with no untoward effects whatever.

No immediate untoward results were seen after use of the serum. Three cases developed marked urticaria, which was somewhat more severe than is generally experienced following the use of tetanus antitoxin.

[4]Op. cit. This serum may be obtained from the Institute of Hygiene of this Department of Health, Popotla, Mexico, D. F. The serum comes in 5 and 10 c.c. vials, or in the concentrated form in 3 c.c. vials. The treatment suggested by the Institute is as follows: "As soon as possible inject intramuscularly or subcutaneously 5 to 10 c.c. of natural serum or 3 c.c. of the concentrated. In serious cases inject intravenously."

Make arrangements now to attend the

ANNUAL MEETING

of the

New Mexico Medical Society

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NEWS

General

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons announces that the annual foundation prize for this year will be $100. Those eligible include only (1) internes, residents or graduate students in obstetrics, gynecology and abdominal surgery, (2) physicians (M.D. degree) who are actually practicing or teaching obstetrics, gynecology or abdominal surgery.

Competing manuscripts must (1) be presented in triplicate under a nom de plume to the secretary of the association before June 1, (2) be limited to 5,000 words and such illustrations as are necessary for a clear exposition of the thesis, and (3) be typewritten (double-spaced) on one side of the sheets, with ample margins.

The successful thesis must be presented at the next annual (September) meeting of the association, without expense to the association and in conformity with its regulations.

For further details address Dr. James R. Bloss, secretary, 418 Eleventh St., Huntington, W. Va.

"The American Physicians' Art Association, composed of members in the United States, Canada and Hawaii, will hold its second art exhibit in the City Art Museum of St. Louis, May 14-20, 1939, during the annual session of the American Medical Association. Art pieces will be accepted for this art show in the following classifications: (1) oils both (a) portrait and (b) landscape; (2) water colors; (3) sculpture; (4) photographic art; (5) etchings; (6) ceramics; (7) pastels; (8) charcoal drawings; (9) bookbinding; (10) wood carving; (11) metal work (jewelry). Practically all pieces sent in will be accepted. There will be over 60 valuable prize awards. For details of membership in this association and rules of the exhibit, kindly write to Max Thorek, M.D., secretary, 850 Irving Park Blvd., Chicago, Ill., or F. H. Redewill, M.D., president, 521-536 Flood Bldg., San Francisco, Calif.

Written examinations for certification by the American Board of Internal Medicine will be held in various sections of the United States on the third Monday in October and the third Monday in February.

Formal application must be received by the secretary before Aug. 20, 1939, for the October 16, 1939, examination, and on or before Jan. 1 for the Feb. 19, 1940, examination.

Application forms may be obtained from Dr. William S. Middleton, secretary-treasurer, 1301 University Ave., Madison, Wis.

El Paso

Dr. I. J. Bush, former chief surgeon in the Mexican Revolutionary Army under Pancho Villa, and pioneer physician of the Southwest, died Mar. 10.

His book, "The Gringo Doctor," telling of his experiences in the Mexican Revolutionary Army and 40 years on the Mexican border, will be released May 16.

Dr. Bush moved to El Paso in 1897. He was a member of the El Paso County Medical Society. He is survived by his widow, Mrs. I. J. Bush of El Paso, and a brother, A. S. Bush, principal of a San Antonio high school.

A regular staff meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, Mar. 7, 1939, at 12:10 o'clock in the auditorium of the Nurses' Home. Luncheon was served. The program was as follows:

"Acute Diverticulitis of the Sigmoid" Dr. J. L.Murphy
Discussion ..... Dr. Chester Awe
"Gunshot Wound of Abdomen Perforating Liver and Vena Cava" ..... Dr. Paul Gallagher
Discussion ..... Dr. L. Villareal

A regular meeting of the City-County Hospital Staff was held Wednesday, Mar. 15, 1939, at 6:30 P.M., at the City-County Hospital. The program was as follows:

"Indications and Conditions for Caesarian Section" ..... Dr. J. Leighton Green
"Pathological Bleeding During Pregnancy" ..... Dr. Charles Rennick
"Episiotomy" ..... Dr. Jesson L. Stowe

The regular dinner and staff meeting of the Southwestern General Hospital was held Thursday, Mar. 23, 1939, at 6:30 P. M. in the Hospital Auditorium. The program was as follows:

"Differential Diagnosis for Continuous Fever" .... Dr. J. P. Peticolas
Discussion ..... Dr. J. J. Gorman
"Post-Operative General Peritonitis with Paralytic Ileus" ..... Dr. W. J. Pangman
Discussion ..... Dr. G. H. Jordan

The El Paso County Medical Society met Mar. 27, 1939, at 7:00 P. M. Dinner was served. The scientific program was as follows:

"Comparative Study of Arteriosclerotic Gangrene and Buerger's Disease" ..... Dr. George Turner
Discussion ..... Dr. Felix P. Miller
"Pheochromocytoma—Case Report" ..... Dr. B. F. Stevens
Lantern Slide Demonstration and Autopsy Report ..... Dr. W. W. Waite

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The El Paso County Medical Society met Mar. 13, 1939, at 7:00 P. M. The program was as follows:

"New Method of Skin Testing with Allergens" .... Dr. L. O. Dutton

"Hypo-proteinemia in Relation to a Liver Function .....Dr. J. Mott Rawlings

Formation of a cancer clinic was discussed by Drs. Felix P. Miller and John W. Cathcart.

Dr. John A. Hardy was elected chief of the medical staff of Masonic Hospital at the annual staff meeting. Dr. Russell Holt was elected assistant chief of staff. Dr. Charles Rennick is secretary. Executive committee: Dr. J. H. Gambrell, Dr. George Turner and Dr. E. J. Cummins. Dr. S. T. Armstead is retiring chief of staff. Dr. E. Grady Causey is retiring secretary.

Dr. John C. Crimen, 53, general manager of the Southwestern Hospital, died suddenly Mar. 13 during a heart attack.

Dr. Crimen had been associated with the Homan family of physicians practically since coming to El Paso 29 years ago. He was business manager and part owner of the old Homan Sanatorium for many years, and assumed management and part ownership of the Southwestern General Hospital two years ago when it was opened.

Dr. Crimen was educated at New Orleans, taking his degree in dentistry from Tulane University. After a short period of active practice he returned to Tulane as an instructor in dentistry.

He is survived by his widow, a son, John C. Crimen, Jr., and two daughters, Johnell and Jennie Bob Crimen.

New Mexico

The Chaves County Medical Society, organized Mar. 7, 1904, observed its thirty-fifth anniversary at a dinner in Roswell Mar. 8. Talks on the early days in the medical profession in the county were made by the three charter members still in the society, Dr. W. W. Phillips, Dr. R. L. Bradley and Dr. C. F. Beeson.

AUXILIARY NEWS

Mrs. J. W. Laws was named president-elect of the Woman's Auxiliary to the El Paso County Medical Society at the annual meeting, Mar. 13, 1939, in the home of Mrs. Leslie Smith.

Mrs. Branch Craige, chosen president-elect last year, will succeed Mrs. F. O. Barrett as president in 1939-40.

Others elected to serve with Mrs. Craige are: Mmes. Henry T. Safford, Jr., first vice-president; W. E. Vandevere, second vice-president; Leslie Smith, third vice-president; John L. Murphy, recording secretary; J. T. Bennett, corresponding secretary, and Paul McChesney, treasurer.

MISCELLANY

IMMUNIZATION PROCEDURES

(Continued from March issue)

VI. EPIDEMIC PAROTITIS

A. *Test:* None. B. *Active Immunity:* C. *Passive Immunity*—1. *Treatment:* Convalescent serum has been used in doses of from 50 cc. to 100 cc. and is injected intramuscularly to prevent complications. 2. *Exposures:* From 6 cc. to 10 cc. of convalescent serum have been given intramuscularly, but there is no evidence that it has any value.

VII. PERTUSSIS

A. *Test:* None. B. *Active Immunity:* The materials used are as follows: (1) Krueger's endo-antigen: 1.0 cc., then 1.5 cc. subcutaneously every other day for six doses. It is not of proven value. (2) Sauers vaccine: 8 cc. to 10 cc. of vaccine standardized to ten billion organisms per cc. One cc. is injected under the skin in the deltoid area of each arm, 1.5 cc. to 2 cc. in the biceps area of each arm and 1.5 cc. to 2 cc. in the triceps area of each arm at weekly intervals. Its value has neither been definitely disproved nor proved. (3) Old-fashioned vaccine; not of proven value. Immunization may be begun after the child is 3 months of age.

C. *Passive Immunity*—1. *Treatment:* (a) From 35 cc. to 50 cc. of convalescent serum have been used intramuscularly. This treatment is not of proven value.

Certain agents used in the production of active immunity have been used in treatment. (b) Kreuger's endo-antigen mixed: 0.5 cc. to 2 cc. daily for from 10 to 15 injections—of no proven value. (c) Topagen: ¼ cc. into each nostril each or every other day—given from 4 to 5 times for improvement and for 2 weeks to prevent return of the paroxysms—of no proven value. (d) Vaccines of various kinds: of no proven value. (e) Detoxified Pertussis Antigen: only experimental as yet 2. *Exposures:* See ACTIVE IMMUNITY.

VIII. PNEUMONIA

A. *Test:* Bacteriological tests for type specificity; Neifeld's test for type pneumococcus specificity. B. *Active Immunity:* None. Felton's work with polysaccharide vaccine is still in the experimental stage.

C. *Passive Immunity*—1. *Treatment:* Antiserums as a passive immune principle have definite value in treating pneumonia caused by types I, II, III, V, VII and VIII pneumococcic organisms. Other types of serums should be utilized as soon as available. Sulfanilamide should be used with type III infections. 2. *Exposures:* No therapy is advised.

IX. POLIOMYELITIS

A. *Test:* None. B. *Active Immunity:* None recommended. C. *Passive Immunity*—1. *Treatment:* From 25 cc. to 50 cc. of convalescent serum has been used for active and passive immunity. Its value has not been demonstrated in controlled experiments. 2. *Exposures:* No therapy is advised. Vaccination with vaccines is not recommended.

X. RABIES

A. *Test:* None. B. *Active Immunity:* Not generally practiced save in exposures. See EXPOSURES. C. *Passive Immunity*—1. *Treatment:* None. 2. *Exposures* are actively immunized by Semple's or Cumming's vaccine in the Pasteur Treatment. (a) Semple virus (killed): 14 doses—1 dose daily; after head or neck bites—2 doses daily for 7 days

then 1 dose per day for 7 days. Injections are usually made into the abdomnal and subscapular areas, and subcutaneously. (b) Cumming's virus: sterile brain tissue—virulence destroyed by dialysis against running distilled water—14 injections, once a day for slight lacerations. Each container holds about 2.0 cc. For severe bites, 21 injections—starting two injections a day for the first 5 days and then one injection a day thereafter. Patients bitten about the nose and face, and children under 10 years of age should be given 21 injections. Occasional paralyses may occur with the use of vaccine. This, however, is not so important as the fact that the mortality rate in this disease is from 60 to 90 per cent.

XI. Measles

A. *Test:* None. B. *Active Immunity:* None.

C. *Passive Immunity*—1. *Treatment:* Adult whole blood, human convalescent measles serum and placental globulin extract have been used as passive immune principles. It has not been shown that adult whole blood is of proven value. Convalescent serum in amounts of 50 cc. or more is of value. From 2 cc. to 10 cc. of placental globulin extract have been used in the prodromal stage of the disease. 2. *Exposures:* In order to prevent measles, 10 cc. of convalescent serum should be injected within the first few days after exposure. The objective, however, should be to modify and not to prevent the disease. The serum should be given on the sixth day after exposure, although it is pertinent to note that permanent immunity does not invariably follow modified measles. If convalescent measles serum is not available, from 2 to 4 cc. of placental globulin extract may be used either to prevent or to modify the disease.

XII. Scarlet Fever

A. *Test:* The specific test is the Dick test. Although it is not 100 per cent perfect, it generally indicates a susceptible individual. If the physician remembers the small percentage of negatives that may be susceptible, the test is invaluable. Inject 0.1 cc. of scarlet fever toxin intradermally and read in 24 hours. If there is an area of redness of 0.5 cm. or larger, the test is positive. B. *Active Immunity:* Scarlet fever streptococcus toxin is used to immunize susceptible individuals. A Dick positive reactor may be rendered negative by injecting increasing skin test doses of scarlet fever toxin—500, 800, 2,000, 8,000, 80,000 units weekly intervals. Some of the Committee feel that scarlet fever immunization cannot be put in the same class with diphtheria immunization and should be presented as a less desirable procedure carried out under definite conditions of exposure. Immunization should not start before 12 and preferably after 18 months of age.

C. *Passive Immunity*—1. *Treatment:* Scarlet fever antitoxin has been used as the passive immune principle. Its use may be associated with severe serum sickness. Recently, purified scarlet fever antitoxins have been described which do not cause so many reactions. One or two ampoules—from 6,000 to 12,000 antitoxin units should be used as early as possible. Convalescent serum may be of value, but it should be used in large amounts, at least from 80 cc. to 100 cc. 2. *Exposures* should not be given anything.

XIII. Staphylococcus Infections

A. *Test:* None. B. *Active Immunity:* Staphylococcus toxoid may be used as an active immune principle. Its use is limited and still in the experimental stage, and its effectiveness has not been determined.

C. *Passive Immunity*—1. *Treatment:* Staphylococcus antitoxin has been used, but there is no evidence that it is of any value. 2. *Exposures:* No therapy is recommended.

XIV. Tetanus

A. *Test:* None. B. *Active Immunity:* Tetanus toxoid has been recommended in doses of 0.5 cc., 1.0 cc. and 1.0 cc. at weekly intervals. It is of proven value, but its use is limited.

C. *Passive Immunity*—1. *Treatment:* Tetanus antitoxin as a passive immune principle is of proven value. The amounts that should be used are sometimes massive, from 100,000 units to 800,000 units injected intramuscularly and intravenously. Some of the Committee feel that 40,000 units will accomplish the same result as a massive dose. 2. *Exposures:* Inject from 1,000 units to 2,000 units of tetanus antitoxin intramuscularly. This must be repeated in from 7 to 10 days if the wound is deep or on the face, or if it covers a large area and if the exposure has been massive.

XV. Tuberculosis

A. *Test:* The tuberculin test is of proven value, although it does not denote activity save in children under 2 years. It is possible, although improbable, that a child might have recovered from the disease at that age. A persistent negative tuberculin test is a dilution as low as 1/10 is generally considered to mean that the individual does not have tuberculosis.

B. *Active Immunity:* B.C.G. vaccine has been recommended, but there is no conclusive evidence of its value, and it is as yet experimental. B.C.G. vaccine should not be used in private practice. C. *Passive Immunity*—1. *Treatment:* There is no passive immune principle. 2. *Exposures:* No therapy.

XVI. Typhoid Fever

A. *Test:* None. B. *Active Immunity:* Typhoid fever vaccine injected subcutaneously in doses of 0.5 cc., 1.0 cc. and 1.0 cc. is used as an active immune principle in those localities where typhoid fever is a common occurrence. The immunity does not last longer than 2 years. A common practice is to reinject 1 cc. every year in the spring of the year.

C. *Passive Immunity*—1. *Treatment:* Schwartzman's antityphoid serum may be mentioned; it is only of experimental value. 2. *Exposures:* Vaccinate with typhoid fever vaccine.

XVII. Varicella

A. *Test:* None. B. *Active Immunity:* Vesicle contents have been used to immunize but there is no conclusive evidence that the procedure is of any value. C. *Passive Immunity*—1. *Treatment:* Convalescent serum has been used, but it is the consensus of opinion that it is useless. 2. *Exposures:* Ten cc. of convalescent serum has been used, intramuscularly, but the results are not convincing.

XVIII. Variola

A. *Test:* There is no specific test for the disease, although a reaction of immunity following vaccination is sufficient evidence of immunity if there has been a previous history of vaccination and objective evidence of an old vaccination scar.

B. *Active Immunity:* Calf vaccine smallpox virus is recommended as an active immune principle of proven value. (1) Vaccination is sometimes carried out by scarifying the skin with a knife and rubbing the vaccine material into the denuded area. This method is not recommended. (2) It may also be performed by criss-cross scratching of the epidermis with a needle or other sharp pointed instrument and rubbing the virus into the scratched area. This is not recommended. (3) A drop of vaccine is placed on the skin and multiple acupunctures are made into the skin and through the vaccine. This is the method recommended by the United States Public Health Service. (4) Vaccination may be done intradermally. The contents of a capilliary tube is sucked into a small needle.

shaken and 0.1 cc. of this mixture injected intradermally. *Caution:* Never put an occlusive dressing, shield, etc., over a vaccinated area. Never draw blood when vaccinating. Just go through the epidermis. Vaccinate as early in life as possible—at least before 3 years of age, since post-vaccinial encephalitis does not occur before that age.

Virus has been artificially grown by Goodpasture and Rivers. There is no evidence at hand that these vaccines are any better than the present universally used calf vaccine. However, there may be practical reasons for their use in warmer climates and under certain circumstanes.

C. *Passive Immunity*—1. *Treatment:* None. 2. *Exposures: Vaccination.*—*J. of Med* (Cincinnati).

TEN DON'TS IN THE FRACTURE CASE

1. Do not attempt to treat a sprain or fracture without an x-ray examination.
2. Do not reduce a fracture with misplacement without some type of anesthetic.
3. Do not reduce a fracture without competent assistance.
4. Do not fail to tell the patient the condition you are trying to overcome.
5. Do no apply a cast or splint without advising the patient of the symptoms of impaired circulation.
6. Do not fail to advise and insist on hospital care if you deem it necessary.
7. Do not neglect to see the patient often enough. Better many times too many than once too few.
8. Do not forget to advise the patient of the damage to soft parts and the possible result of this damage to function.
9. Do not let him forget that complete cooperation is expected by you during treatment and that only through such cooperation can best results be obtained.
10. Do not fail to make detailed records which should include history of accident, physical and laboratory findings—those present at time of examination and treatments—x-ray findings, dates of services rendered, splints and other materials used, advice given patient and information as to who may have heard this conversation. In fact, do not think any incident or happening too insignificant to warrant recording. Then file them carefully and permanently.—*Minn. Med.*

UNUSUAL CAUSE OF ACUTE INTESTINAL OBSTRUCTION

Intestinal obstruction may be caused by many kinds of foreign bodies, both endogenous and exogenous. The unusual character of the obstructing agent in this case has prompted the authors to publish this report.

We have been unable to find any recorded instance of such a case, and believe it to be unique.

In this instance a 56 year old white male swallowed four turtle eggs, which passed through the stomach and pyloris to the ileocaecal valve, at which point they became lodged, and surgical intervention became necessary.

It is interesting to note that the membranous covering of the eggs was so leathery and tough, even after being in the intestinal tract approximately four days, that it was impossible to break them open except by cutting the covering with a sharp instrument.

The following is the case history:

Mr. J. K., age 56 years, was admitted to Bethesda Hospital on June 14, 1938, complaining of severe cramp-like pains in the lower abdomen and vomiting. He thought that the trouble was due to the turtle eggs he had swallowed, while in a state of intoxication, at a picnic on June 12—two days prior. This was a little confusing to us because we did not thoroughly understand the nature of turtle eggs.

Physical examination failed to reveal anything except the distention. X-ray showed fluid levels in the small bowel.

The symptoms became more and more severe. The following day, June 15, 1913, a laparotomy was done which disclosed four spherical masses in the distal ileum, lodged at the ileocaecal valve. An ileotomy was done and four turtle eggs removed.

The recovery was uneventful except for a subfacial abscess, which opened spontaneously on the sixth postoperative day.

The patient was out of bed on the nineteenth postoperative day, and dismissed from the hospital on the twenty-sixth postoperative day.—*Ohio St. Med. J.*

PROBLEMS IN POLIOMYELITIS

The pressing "polio" problems of today are thought to be:

1—The isolation and identification of the exact cause.
2.—The exact mechanism of transmission.
  A.—The receiver.
  B.—The transmitter.
3.—Is the blood stream infected?
4.—The positive early diagnosis before demonstrable paralysis occurs.
5.—The determination of the exact moment of invasion of the central nervous system.
6.—Spinal fluid studies:
  A.—Diagnostic.
  B.—Prognostic.
  C.—Indications for therapy.
7.—Examination of nasal secretions.
8.—Examination of stools.
9.—Blood tests.
10.—Skin tests.
  A.—To establish susceptibility.
  B.—To establish diagnosis of "abortive or systemic polio."
  C.—To assist in prognosis.
11.—The discovery of positive protection against the disease.
  A.—Biologic { Heredity; Immunization. Vaccination.
  B.—Physical.
  C.—Chemical—topical application.
12.—Factors in prevention.
13.—Factors in protection.
14.—The discovery of a cure.
  A.—Bologic { Serum { convalescent normal animal hyper-immune serum; Vaccine
  B.—Chemical
  C.—Physical { lumbar puncture. irrigation of spinal canal. fever. posture. respirator. early hydro-therapy.

15.—Dissemination of knowledge, by publications and radio, to:
A.—Physicians.
B.—Physical therapists.
C.—Medical students.
D—Laity (social service workers; societies).

16.—Miscellaneous considerations.
Warnings against:
cultists.
charlatans.
unqualified practitioners.
electricity, except on a physician's prescription.

Parents "shop around" in the hope of getting a better prognosis and permission for the early use of affected parts. They often become confused and fall into the hands of unqualified persons who promise results, predict recovery, guarantee cures, make financial contracts, and mulct the patients by "come-on" advertising. This group includes fakers, quacks, and certain physical trainers and irregular practitioners.—*The National Foundation for Infantile Paralysis.*

REMOVAL OF BB SHOT WITH GIANT MAGNET

BB shot were formerly made by pouring molten lead into molds. Today the process is the same except molten steel is used, so that the shot are attracted by a magnet. Some of the BB shot on the market have been copper coated. This does not affect the action of the magnet on them. I desire to report two cases where the magnet was successfully used in removing BB shot from the body.

Case 1.—B. W., a girl aged thirteen, was playing in her own back yard. One hundred and fifty feet away a neighbor boy was shooting a BB air rifle. He saw the girl, took aim and fired. The shot penetrated the right eye-ball, entering the vitreous chamber behind the lens on the nasal side. X-ray examination six hours later showed the shot still in the globe 9 mm. back of the center of the cornea, 10 mm. to the temporal side of the vertical meridian and 11 mm. below horizontal meridian. The anterior chamber was filled with blood; the pupil dilated easily. Details of fundus were not made out. There was very little reaction in the eye. The sclera was still white. Under local anesthesia a giant magnet was used, when the shot was easily drawn out through the wound of entry. The patient was given typhoid vaccine for protein reaction. She left the hospital in four days. Subsequent examination showed the lense had not been injured and there was no traumatic iritis. The vision was 20/20 with correction and has remained so for nine months, with no retina detachment.

Case 2.—H. N., a boy aged three, while playing with BB shot put one in his left ear. Two unsuccessful attempts were made to remove the shot with forceps which only pushed the shot further in and caused traumatism with hemorrhage. I saw the child about four hours later. Examination showed the external canal full of blood clot. When this was washed away, a very little of the surface of the shot could be seen because of swelling and edema in the external canal. Remembering that the shot was steel, removal was easily done under ether anesthesia with the giant magnet, after the external canal had been packed with alcohol cotton for twelve hours. The shot was lying against the drum membrane. No inflammatory reaction followed. These BB shot had a diameter of 3.5 mm. and weighed 350 mg.—*Jour. M.S.M.S.*

CONTROLLING ONE'S DESTINY

There are times in every doctor's career when he encounters a run of success. Day after day passes when all goes well with his patients, and he falls an easy prey to their praise and thanks. His step lightens, his chin goes up, and he pats himself on the back and says, "What a big boy am I!'" He is satisfied and pleased with himself and his work.

Then all unexpectedly comes the period when day after day adversity dogs his footsteps. As one day follows another, and adversity clings on, his chin gradually falls, his face lengthens, his step becomes heavy, and the sunshine of his countenance gleams less brightly; and as despair deepens, he reproaches himself with "What a big chump am I!"

An elderly, sympathetic doctor once expressed his philosophy something like this:

"Beware of the days when all goes well; beware of the word of praise and the pat on the back, for all such things are fickle. But when Old Man Adversity knocks at your door, do not try to holler loud enough to drown the sound of his knocking. Ask the old croaker to come in and justify his visit. Be candid with him, strip him of his cloak of mystery and find the purpose of his visit. From him you may learn much; but he is a peculiar sort of fellow in that, the more you learn from him, the less often does he knock at your door, and the happier are your days."—*Jour. Med. Soc. N. J.*

PNEUMONIA "CURES"

The file of proprietary medicines, prepared by the Works Progress Administration, working in the Bureau of Foods, Drugs and Hotels of the State Department of Health, under official Project Number 0-115-9862, lists 165 preparations which have been or are now being sold as treatments or preventives for pneumonia. Of these preparations 98 are recommended for external use and 67 for use internally. The period covered by this file extends from 1908 to 1938.

The majority of the preparations for external use consist of liniments and salves having bases of petrolatum, kerosene and fats, such as stearin and other oils Forty-nine per cent of them contain camphor; 31% eucalyptol; 47%, thymol, menthol, mustard, artificial oil of wintergreen and pine oil; 18%, turpentine.

Perhaps the most remarkable of the external "cures" for pneumonia, which was also offered for sale as a "cure" for malaria, peritonitis, Bright's disease, cancer and syphilis, was a concoction of sand and clay, with about 2% of animal charcoal. This product was sold in 1910 by one and the same manufacturer under two different names, with practically no difference in composition. Another product, sold in 1937, consisted of a twelve ounce can of chlorinated lime and a one ounce bottle containing eucalyptus oil, with a small percentage of sulphuric acid. This preparation was labeled "An effective remedy and cure for colds, bronchitis, flu and pneumonia in man and also in poultry and hogs". A third product, offered for sale in 1922 by a manufacturer in Missouri and again in 1921 by a manufacturer in Ohio consisted almost entirely of clay and tar with an additional small amount of boric acid in one case. This product claimed in both instances to be an efficient remedy for pneumonia, lung trouble, boils, piles, ulcers, congestion of the lungs, typhoid fever, diphtheria and acute inflammatory rheumatism.

The internal pneumonia "cures" were chiefly of the plant extractive type containing alcohol. In

some cases, these so-called "cures" were of the cough syrup variety, containing ammonium salts, chloroform of creosote. Thirty-seven percent contained plant material; 17% aloes, a laxative drug; 33%, alcohol; while 15% of the concoctions contained chloroform and creosote. Other types of ingredients entering into these internal "cures" were calcium salts, iron, sugar, tar, turpentine, magnesium sulphate, essential oils, camphor and cinchona salts.

One of these internal "remedies", sold in 1927, contained 91% milk sugar, together with talc, a trace of nitrogenous material and a very faint trace of radium. This product was offered as a treatment for pneumonia, fibroid tumors and all diseases caused by overwork and as a rejuvenator for man and woman. Another internal preparation, offered for sale in 1923, claimed to be a "cure" for pneumonia, whooping cough, typhoid fever, diphtheria, tuberculosis, appendicitis, peritonitis, cancer and syphilis. This product was in tablet form and consisted of 93.6% sugar of milk, with a trace of animal charcoal.

The so-called external "remedies' 'have, of course, no effect except as counter irritants when rubbed upon the chest wall or in the vaporization of the essential oils. The internal "remedies" are worse than valueless, in that they do no good in themselves, are frequently dangerous and oftentimes serve to delay proper treatment until it is too late for even such treatment to be effective.

When large elements of the population pin their faith on this type of medication for the prevention or cure of pneumonia, it is small wonder that the disease occupied fifth place among the causes of death in the United States as a whole in 1937. In Kentucky, in the same year, the death rate from pneumonia was second only to that from diseases of the heart.—*Kentucky Bull. Dept. of Health.*

ERADICATION OF BOVINE TUBERCULOSIS

The eradication of tuberculosis from cattle in the United States is said to be the finest demonstration of tuberculosis control that the world has ever known. North Carolina has the distinction of being the first accredited State, and this is one of the firsts of which we should be proud. We are indebted to Dr. William Moore our State Veterinarian, and his associates for this distinction. North Carolina became accredited in 1928, and gradually all of the other States have followed suit until now all are accredited except California, and the eradication has been completed in all but 14 counties of California. To become accredited the State must have not more than one-half of 1% of its cattle showing a positive tuberculin test. Last year Dr. Moore and his assistants tested 32,374 cattle, with only 3 positive reactors—one-tenth of 1%.—*So. Med. and Surg.*

CASE NOTES

COCCIDIOIDES INFECTION IN ARIZONA —ALLERGIC FACTOR IN NODULES?

ORVILLE HARRY BROWN, M. D.
Phoenix, Arizona

In the last 20 years I have had a number of cases, perhaps a dozen, who seem to fit into the requirements, set up by Dickson, Smith, and others for the diagnosis of a coccidioides infection. The feature which brought the patients to seek medical attention were erythemic nodules. My impression is that most if not all of the cases seen by me had low grade fever and were generally mildly toxic. The number of cases I may have had who did not develop the erythema nodosum I can only conjecture. If other local physicians have seen cases in proportion to my number, and further if a considerable per cent of cases have gone without medical attention, especially where erythema nodosa have not developed or have been ignored, the number of cases occurring in Arizona must make coccidioides infection a condition which we should recognize and learn more about.

I have recognized that making a diagnosis of erythema nodosum was comparable to naming a symptom and have endeavored to arrive at a diagnosis based upon etiology. The nearest cause I have been able to establish for the disease has been that it was of an allergic nature. And indeed my experience would tend to establish that there may be an allergic factor concerned in the production of the redish swellings beneath the skin—with the color showing through the skin.

In my early experience with the condition I had a great deal of difficulty in clearing it up and giving the patients relief. In certain instances the erythema nodosa may be made to disappear within a short time, but other allergic manifestations may be difficult to control so that the patients are free of annoying symptoms. Two cases now under treatment will serve to illustrate the suspected allergic factors in the individuals, with coccidioides infection.

A male, 34, came to the office May, 1936, complaining of indefinite pain in the right lower quadrant of his abdomen with a considerable amount of intestinal gas. He had slight tenderness and muscle spasm but scarcely enough to make us conclude to do an appendectomy, although this was contemplated. He was put upon a diet, slightly different from what he usually used, of foods easily digestible and was given citric acid to take with his meals. His trouble promptly disappeared. In February of 1938 he appeared again. He had an eczema of a small area of his legs and scrotum. The suspicion then was that the lesion was the result of sensitivity to cotton. By skin tests he was found sensitive to cotton, flaxseed, orris root, silk and certain molds. He was slightly sensitive to rayon. He was instructed, however, to wear rayon underwear as being the least likely to harm him. Cotton, silk, rayon and the other materials to which he was found sensitive were diluted into a vaccine which was given him in small doses over a period of several months about two doses a week. The eczema soon disappeared. In May of 1938 he developed erythema nodosum and suffered extreme malaise and felt feverish. In line with my previous experience I regarded this as an allergic phenomenon. We continued with the vaccine he had previously had and gave him a stricter diet based upon my "Food-Addition Method", and in the course of a short time the erythemic nodes were gone and he has had no more. He was skin tested to foods

and he reacted to about 60 of them to a degree which we thought indicated he should not eat them for a time. His red spots did not disappear, however, with the same rapidity that had prevailed in other cases, and I was caused to wonder if there were not some factor which I was overlooking. Within the last two weeks I have obtained through the kindness of Dr. Charles E. Smith of the Public Health Department of Stanford University, the coccidioides test material. His reaction is mildly positive; the red area after 48 hours was about 15 mm. in diameter; the redness and the induration were not intense. I suspect that he had a coccidioides infection at the time he had the eryhema nodosum. A small group of patients who have had no erythema nodosum and who have been tested for sensitivity to the coccidioidin gave definitely less reaction to it than he did. This man had long driven a street sweeper and this could likely be his source of infection.

A second case, a female, 64, came in January 19, 1939, because of lumps on her legs and generalized swelling of her legs, ankles, and feet. She had extreme, malaise and felt feverish; she felt hardly able to keep at her work. Her temperature was not taken. I was still thinking of the condition as an allergic response to foods or other material she had contacted. She was placed upon a fresh meat diet with dilute hydrochloric acid to take with her meals and in four days' time her erythema nodosa were entirely gone and she felt immensely better. On March 26, 1939, I placed a coccidioidin test upon her arm and she almost immediately had a hive which measured 15 mm. across and in 48 hours had a swelling which measured 45 mm. across and was raised and indurated to a depth perhaps as great as the diameter of the nodule. It was warm as compared with the surrounding tissues. A general swelling of the arm occurred. She felt sick just as she was, she said, while she had the nodules on her legs. I think there is little if any doubt about this having been a definite case of coccidioides infection. The rug in the office where she worked had long been extremely dusty and this likely caused her infection.

The rapidity of her clearing up on a strict diet certainly indicates an allergic factor in the etiology of the erythema nodosum and that in this case sensitizations to food were probably concerned in causing the nodules. At any rate the nodules disappeared quickly when the patient was placed on a radically different diet than that she had been eating This, I repeat has been my experience with all other cases whom I have treated.

Conclusion: Coccidioides infection propably exists in Arizona; a number of cases should be found each year if the physicians are thoroughly aware of its existence.

My experience indicates that the nodules of the coccidioides infection are an allergic response not only to coccidioidin but to various materials which a patient contacts.

Professional Bldg.

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Antipneumococcic Serum, Refined and Concentrated, Types I and II.—An antipneumococcic serum (New and Nonofficial Remedies, 1938, p. 399) prepared by immunizing horses with intravenous injections of the virulent and avirulent cultures of type I and II pneumococci. The serum is refined and concentrated by the method of Lloyd D. Felton. The concentrated product contains type I and type II pneumococcus antibodies. Sterility tests are carried out in the manner prescribed by the National Institute of Health and safety tests are carried out by injection into white mice and guinea pigs. The product is marketed in packages of one syringe containing 10,000 units each of type I and type II, and in packages of one syringe containing 20,000 units each of type I and type II pneumococci, each accompanied by a vial of dilute serum for the sensitivity test. The Gilliland Laboratories, Inc., Marietta, Pa.

Elixir Amytal, 2 grains per fluidounce. Amytal (New and Nonofficial Remedies, 1938, p. 111), approximately 0.44 Gm. per hundred cubic centimeters, in a vehicle containing alcohol 30 per cent, glycerin, water and aromatics; methenamine, 2 grains per fluidounce, is present for the purpose of increasing the solubility of the amytal. Eli Lilly & Co. ,Indianapolis, Ind.

Elixir Amytal, 4 grains per fluidounce. Amytal (New and Nonofficial Remedies, 1938, p. 111), approximately 0.88 Gm. per hundred cubic centimeters, in a vehicle containing alcohol 34 per cent, glycerin, water and aromatics; methenamine, 4 grains per fluidounce, is present for the purpose of increasing the solubility of the amytal. Eli Lilly & Co., Indianapolis, Ind. (J.A.M.A., March 4, 1939, p. 843)

Epinephrine, U. S. P.—Upjohn. Marketed in vials containing epinephrine (New and Nonofficial Remedies, 1938, p. 230) 0.065 Gm. (1 grain). Upjohn Company, Kalamazoo, Mich.

Solution Epinephrine 1:1000-Upjohn. Each cubic centimeter contains epinephrine (New and Nonofficial Remedies, 1938, p. 230). 1.0 mg., sodium chloride 7.0 mg., sulfur dioxide (as sulfurous acid) not more than 0.6 mg., chlorobutanol not more than 5.0 mg., dissolved in distilled water saturated with carbon dioxide. It is marketed in packages of 1 c.c. ampules and 30 c.c. vials. Upjohn Company, Kalamazoo, Mich.

Scopolamine Hydrobromide-Merck. A brand of scopolamine hydrobromide-U.S.P. (New and Nonofficial Remedies, 1938, p. 377). It is marketed in the form of crystals and powder in vials of 1, 5 and 15 grains. Merck & Co., Inc., Rahway, N. J.

Ampuls Caffeine with Sodium Benzoate, 2 c.c. An aqueous solution containing in each 2 c.c. caffeine with sodium benzoate-U.S.P. (New and Nonofficial Remedies, 1938, p. 150) 0.5 Gm. (7½ grains). The Maltbie Chemical Co., Newark, N. J.

Thiamin Chloride-Abbott. A brand of thiamin chloride-N.N.R. (THE JOURNAL, July 16, 1938. p. 253). It is marketed in the form of tablets 0.33 mg., 1.0 mg., and 3.3 mg., containing 100, 300 and 1,000 international units of thiamin chloride, respectively, and in the form of ampoules 6.66 mg.. 1.0 mg., 1 c.c., and 10.0 mg., 1 c.c., containing 2,000, 300 and 3,000 international units of thiamin chloride,

respectively. Abbott Laboratories, North Chicago, Ill.

Solution of Formaldehyde-Merck. A brand of solution of formaldehyde-U.S.P. (New and Nonofficial Remedies, 1938, p. 248). Merck & Co., Inc., Rahway, N. J.

Bismuth Subsalicylate in Oil Suspension. A suspension of bismuth subsalicylate (New and Nonofficial Remedies. 1938, p. 142) in peanut oil, each cubic centimeter containing 2 grains (0.13 Gm.) of bismuth subsalicylate, U.S.P. (equivalent to 75 mg. of Bi metal) and 0.03 Gm. (3 per cent) of chlorobutanol. Marketed in bottles containing 30 c.c., 60 c.c. and 100 c.c. Diarsenol Company, Inc., Buffalo, N. Y.

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Ampoule Solution Procaine Hydrochloride ½% with Epinephrine, 5 c.c. Each cubic centimeter contains procaine hydrochloride, U.S.P. (New and Nonofficial Remedies, 1938 p. 74) 0.005 Gm.; epinephrine, 0.05 mg.; sodium bisulfite, 1.6 mg.; benzoic acid, 0.06 mg.; sodium chloride, 8.5 mg.; normal hydrochloric acid, 0.0007 c.c.; dissolved in distilled water and saturated with carbon dioxide. The Upjohn Company, Kalamazoo, Mich.

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Solution Procaine Hydrochloride 1% with Epinephrine, 30 c.c. Vials. Each cubic centimeter contains procaine hydrochloride, U.S.P. (New and Nonofficial Remedies, 1938, p. 74) 0.01 Gm.; epinephrine, 0.02 mg.; sodium bisulfite, 2.1 mg.; benzoic acid, 0.2 mg.; sodium chloride, 8.4 mg.; normal hydrochloric acid, 0.00125 c.c.; chlorobutanol, not more than 5 mg.; dissolved in distilled water and saturated with carbon dioxide. The Upjohn Company, Kalamazoo, Mich.

BOOK NOTES

SURGICAL TREATMENT OF HAND AND FOREARM INFECTIONS. By A. C. J. Brickel, A. B., M. D., Department of Anatomy and Surgery, Western Reserve University. Price, $7.50; pp. 300, with 166 text illustrations and 35 plates, including 10 in color. The C. V. Mosby Company, St. Louis, Mo., 1939.

"There is no such thing as a trivial cut or infection of the hand." This is an axiom which Dr. Brickel has demonstrated throughout this most remarkable text. If this principle is followed conscientiously by both the physician and the general public, fewer deformities and losses are to be expected. Unfortunately the education of the public along these lines is rather difficult and slow. On

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the other hand, the axiom should be well known to any surgeon of experience and he should be anxious to equip himself adequately to cope with the problem at hand. This excellent treatise provides that equipment—a knowledge of what to do and when to do it.

Every phase of infection of the fingers, hands, and forearm is covered concisely, accurately, and illustratively. There are a total of 35 plates, 10 of them dissection plates, in color, with accompanying illustrative drawings. There are also a large number of x-ray plates of the hand following injections of the various sheaths and spaces with radiopaque

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substances. To one who has always had some difficulty with the anatomy of the hand, these are a revelation. There are 166 text illustrations, of excellent photographic technique, showing the clinical appearance of every type of infection of the fingers, hand, and forearm and explaining the method of treatment of individual cases.

The first chapter of the text deals with the anatomical dissections and cross-sections of the hand and forearm, as illustrated by the colored plates. Each dissection is discussed and short clinical notes accompany the discussion. Chapter II deals similarly with the radiopaque injections of the spaces of the hand and the tendon sheaths. In the succeeding chapters the following subjects are covered: General principles of hand and forearm infections, regional surgery of the hand and forearm, human bites, the influence of diabetes and peripheral vascular disease upon infection, and, finally, the medicolegal aspects of hand injuries.

This text is an excellent original approach to the subject. It is beautifully printed and there is not a wasted word in it. In this day, when medical volumes are appearing in profusion, it is one of the "must have" books—it belongs in every surgeon's library.—*R. B. H., Jr.*

SURGICAL ANATOMY. By C. Latimer Callander, A. B., M. D., F. A. C. S., Associate Clinical Professor of Surgery and Topographic Anatomy, University of California Medical School; Member of Founders' Group of the American Board of Surgery; Member of American Association of Traumatic Surgery; Associate Visiting Surgeon to the San Francisco Hospital. With a foreword by Dean Lewis, M. D., Sc. D., LL. D., F. A. C. S. Second edition, entirely reset. 858 pages with 819 illustrations. W. B. Saunders Company, Philadelphia and London, 1939. Cloth, $10.00 net.

This is the first revision of one of the top notch English language text books on surgical anatomy. Much of the text has been rewritten. Certain illustrations have been discarded, but many line drawings have been added. The work has been brought up to date with the addition of much valuable information concerning neuro-surgery. The illustrations, as in the first edition, are remarkable in their detail, conception, and clarity.

The book would hardly make a surgeon out of a blacksmith, but it is extremely difficult to see how any surgeon worthy of the name could fail to reap high benefit from the constant use of this text. This is one book that should never gather dust in any surgeon's library. It certainly sets a lofty standard for the other works of its type.—*S.*

INTERN'S HANDBOOK. By members of the Faculty of the College of Medicine, Syracuse University, under the direction of M. S. Dooley, M. D., Chairman Publication Committee. 523 pp. with index. Cloth. Second edition. J. B. Lippincott Co., Philadelphia, 1938.

The first edition of this valuable little guide to diagnosis and treatment was published nine years ago. It was of great help to those interns who were so busy taking histories and treating emergencies that they had little time to consult text-

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ANEMIA IN PRACTICE. (Pernicious Anemia.) By William P. Murphy, A. B., M. D., Associate in Medicine, Harvard Medical School; Senior Associate in Medicine, Peter Bent Brigham Hospital, Boston; Consultant Hematologist, Melrose Hospital, Melrose, Mass. W. B. Saunders Company, Philadelphia and London.

Anemia is a subject of common interest to all physicians regardless of their specialty.

The author, for several years recognized as an authority on both the clinical and scientific aspects of the subject of anemia presents his personal views of the pertinent facts of this important subject in a concise, clear, and interesting manner. Moderate reference to the literature is made with a bibliography following each chapter.

Approximately one-fourth of this volume is utilized in the classification as well as the differential diagnosis of the hypochromic anemias and normocytic anemias. These types are discussed under separate classifications. Detailed description of treatment with the advantages to be obtained by combined use of liver and iron therapy is emphasized. Other essentials of treatment with their limitations are included.

In the chapter on normocytic anemia a limited number of case histories are included suggesting the early recognition and evaluation of certain symptoms. To the long list of drugs producing anemia under this classification is added sulphanilamide. The chemicals producing industrial hazzards are also included.

The second and major portion of this book is opened by an interesting historical summary of pernicious anemia which was formerly such a distressing and hopeless disease. We are reminded of the lack of important contributions to this subject for a quarter of a century prior to the epoch-making presentation by Minot and Murphy regarding liver therapy. The cardinal principles of early diagnosis prompt vigorous treatment with whole liver or an effective substitute and an admonition to maintain throughout the duration of life, treatment adequate for each patient's needs, are stressed by the author as the secret of the successful treatment of the patient with pernicious anemia.

Although five chapters are devoted to liver therapy, the subject matter is so divided that only the material which particularly appeals to an individual need be reviewed. The chapter on liver therapy in practice is thorough and concise.

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titioner to find the subject of this important disease virtually introduced by a discussion of the treatment and clinical symptoms leaving the technical consideration of incident and etiology to consume those idle moments which seldom come.

The complications and associated diseases are thoroughly discussed and clarified by the inclusion of case histories which are also utilized to emphasize common errors in diagnoses.

The volume is concluded by a timely discussion on the subject of transfusion of blood with particular emphasis on the indications for and effects of transfusions including a discussion and classification of the types of reaction occasionally encountered.—*J. J. G.*

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